

**Mizz Bizz Management, LLC**  
BUSINESS MANAGEMENT AND BOOKKEEPING SERVICES

15315 Magnolia Blvd., Ste 404  
Sherman Oaks, CA 91403  
818 783-7007 ph  
866 870-6574 fax  
marcelle@mizzbizz.com

PERSONAL AND CONFIDENTIAL  
TO BE OPENED BY  
ADDRESSEE ONLY

November 9, 2011

To: Kim Muratore, Case Developer (SFD-7-5) From: Marcelle Zananini  
Case Development Cost Recovery Section/Division  
U.S. EPA, Region 9  
75 Hawthorne St. Mail Code SFD - 7 -5  
San Francisco, CA 94105

- Re: **EPA's CERCLA Request for Information Letter**
  - **12600 Saticoy St., North Hollywood Ca**
  - **Owner Ziv Enterprises LLC - Sylvia Ziv**

Attached please find the following reports regarding the above-mentioned subject matter per your request. Please note I will email you on Monday pictures and a letter from state agency regarding the clean up at this location. Moreover, all future correspondence should be updated and sent to our office address attention Sylvia Ziv, Ziv Enterprises.

If you have any questions, please do not hesitate to contact me.

- ☒ Please take appropriate action
- ☒ For your information and files
- ☒ In accordance with your request
- ☐ Please sign and return
- ☐ Please advise how to handle
- ☒ Please acknowledge receipt
- ☐ Please record
- ☒ **Other- Please see all attachments and disc copy.**



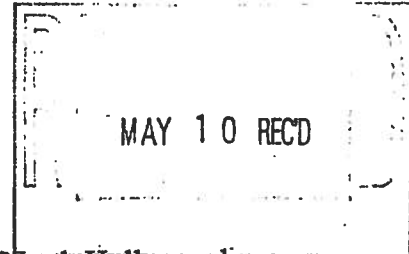
*cert! D.D. Arc 11/14/11*

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105

Certified Mail Number 7010 1060 0002 0234 5706  
Return Receipt Requested

MAY 04 2011

Sylvia Ziv  
Ziv Enterprises, LLC  
28104 Witherspoon Parkway  
Valencia, CA 91355



Re: Information Request Letter for the San Fernando Valley/North Hollywood  
Superfund Site  
North Hollywood, California

Dear Ms. Ziv:

The United States Environmental Protection Agency ("EPA") is spending public funds to investigate and respond to actual or threatened releases of hazardous substances, pollutants, and contaminants at the San Fernando Valley Area 1 site, North Hollywood Operable Unit ("NHOU" or "the Site"), located in Los Angeles County, California. This letter seeks your cooperation in providing information and documents relating to contamination underlying all or portions of the cities of Burbank, Los Angeles, North Hollywood, Sun Valley, and Pacoima, California. This request is for information you may have pertaining to Ziv Enterprises, LLC's (the "Company") facility currently or formerly located at ~~42600 Saticoy Street South~~, North Hollywood, California (the "Facility").

EPA believes that the Company may have information that will assist the EPA in its investigation of the Site, especially with regard to trichloroethylene ("TCE"), tetrachloroethylene ("PCE"), and chromium. EPA requests that the Company answer the questions contained in Enclosure B. Definitions and instructions on how to respond to the questions are provided in Enclosure A.

Under Section 104(e) of CERCLA, 42 U.S.C. §9604(e), EPA has broad information-gathering authority which allows EPA to require persons to furnish information or documents relating to:

- (A) The identification, nature, and quantity of materials which have been or are generated, treated, stored, or disposed of at a vessel or facility or transported to a vessel or facility.
- (B) The nature or extent of a release or threatened release of a hazardous substance or pollutant or contaminant at or from a vessel or facility.
- (C) Information relating to the ability of a person to pay for or perform a cleanup.

*Dec. 1994 report*

Attachment 1 to  
ENCLOSURE B: INFORMATION REQUEST

*Jan 1996 - Bond report*

12600 Saticoy Street South  
North Hollywood, CA 91605

List of Sampling & Investigation Reports

*36mg*  
→ Report of Subsurface Investigation, at former Sprayco, Inc. facility, 12600 Saticoy Street South, North Hollywood, CA, prepared by GeoSystem Consultants, Inc., dated October 1993 ✓

*X* Report of Additional Subsurface Investigation, at former Sprayco, Inc. facility, 12600 Saticoy Street South, North Hollywood, CA, prepared by GeoSystem Consultants, Inc., dated April 5, 1994 ✓  
*Irvine Inc.*

*ADG*  
*15* Soil Vapor Resampling Report, at former Sprayco, Inc. facility, 12600 Saticoy Street South, North Hollywood, CA, prepared by GeoSystem Consultants, Inc. and AeroVironment Inc., dated August 1994 *160 ppm* ✓

*X* Report of Nested Vapor Monitoring Well Installation and Sampling, for former Sprayco facility, 12600 Saticoy Street South, North Hollywood, CA, prepared by GeoSystem Consultants, Inc., dated June 1995 ✓

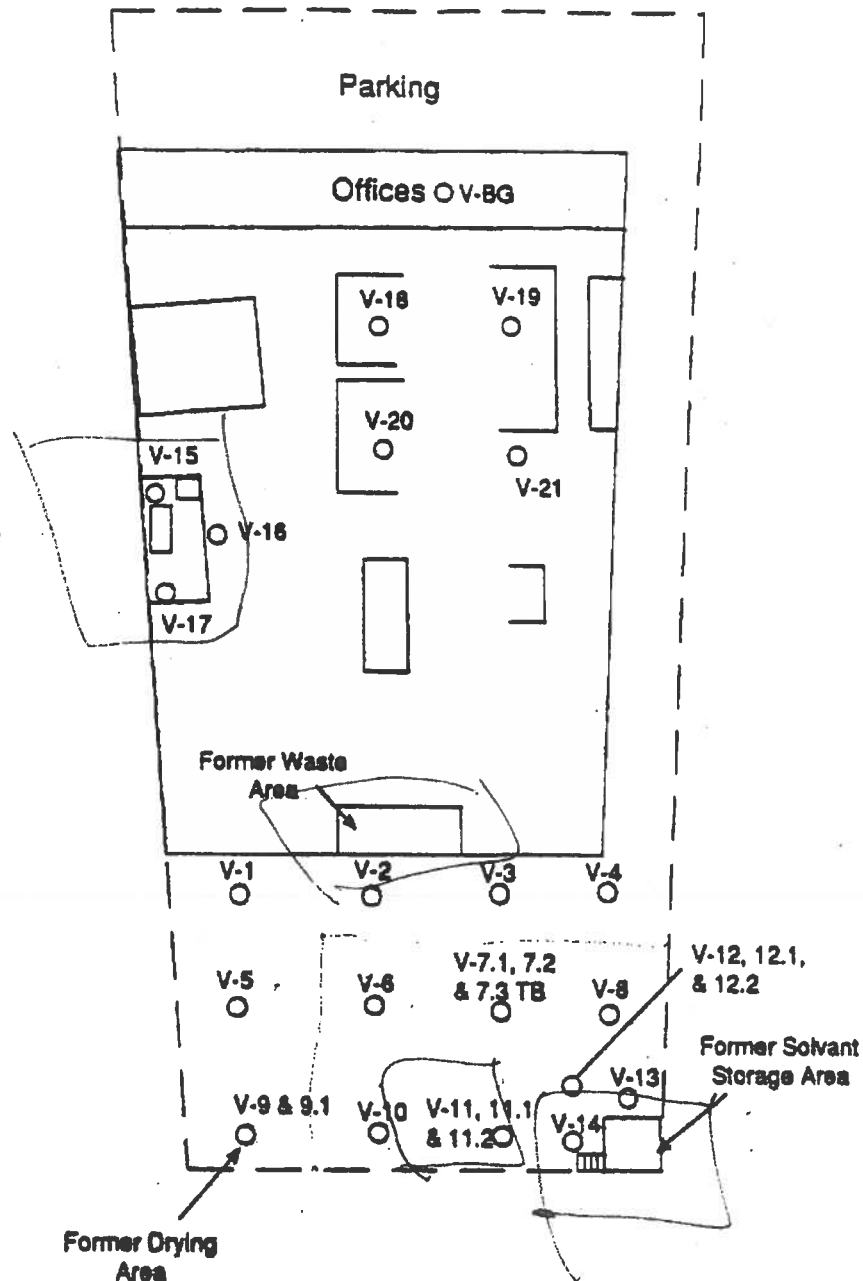
---

## ENCLOSURE B: INFORMATION REQUEST

1. With the exception of those documents listed in Attachment 1 (which have already been obtained by or provided to EPA), please provide copies of all investigation and sampling reports containing environmental data or technical or analytical information regarding soil and water conditions at the Facility, including, but not limited to, data or information related to soil contamination, soil sampling, soil gas sampling, geology, water (ground and surface), hydrogeology, and groundwater sampling. In particular, provide copies of the following documents:
  - Final report of soil gas investigation results submitted after GeoSystem Consultants, Inc.'s June 1995 Report of Nested Vapor Monitoring Well Installation and Sampling, as indicated by the August 8, 1995 letter to Mark Ziv from the CA Regional Water Quality Control Board (this letter stated that the two sets of monitoring data in the June 1995 Report were "conflicting and inconclusive").
- a. State to the best of the Company's knowledge whether Attachment 1, together with the document(s) listed above, represent a complete listing of all soil, soil gas and groundwater sampling conducted at the Facility. If it does not, and the Company does not have a copy of the additional investigation or sampling report(s), please describe the date and type of sampling conducted, and provide information on where EPA might obtain a copy of the report and related documents.
- b. State whether the Company is aware of any future soil, soil gas or groundwater sampling which is planned at the Facility, and if so, please explain.
2. Identify, and provide the following information for, all groundwater wells that are located at the Facility:
  - a. A map with the specific locations of the Facility groundwater wells;
  - b. Date each groundwater well was installed and its current condition (active or inactive);
  - c. Date the Facility groundwater wells were last sampled; and
  - d. List of all constituents which were analyzed during groundwater sampling events (to the extent not provided in response to Request No. 1).
3. Identify, and provide copies of, all agency orders, correspondence and/or workplans that discuss proposed soil or groundwater sampling at the Facility but for which the sampling was never conducted. Explain why the proposed sampling was not conducted.
4. Provide copies of any due diligence reports or property transfer assessments which relate to the Facility.



# SATICOY STREET SOUTH



## LEGEND

- - Soil Vapor Sampling Location
- TB - Tedlar Bag Sample for Second Column Confirmation

Scale (feet)



**AeroVironment Inc.**  
222 East Huntington Drive  
Monrovia, California 91016

## SOIL VAPOR SAMPLE LOCATIONS

Former Sprayco Facility  
12600 Saticoy St. So.  
North Hollywood, CA

Project No. 300677

FIGURE

1





EPA



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

**REGION IX**

**75 Hawthorne Street  
San Francisco, CA 94105-3901**

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD**

**LOS ANGELES REGION**

**101 Centre Plaza Drive  
Monterey Park, CA 91754-2156**

December 31, 1996

**FORMER SPRAY CO/TRANSGLOBAL**

**12600 SATICOY ST.**

**NORTH HOLLYWOOD, CA 91605**

**File Number: 111-1004**

**RE: SAN FERNANDO VALLEY SUPERFUND AREAS U.S. EPA AND LARWQCB  
NOTIFICATION OF NO FURTHER ACTION**

For property located at: **12600 SATICOY ST.  
NORTH HOLLYWOOD, CA 91605**

Dear Owner/Operator,

The California Regional Water Quality Control Board, Los Angeles Region ("Regional Board") staff has conducted an assessment of your facility to determine the extent of solvent usage and to assess past and current chemical handling, storage and disposal practices. Your company is among those in the San Fernando Valley which have received the Regional Board's "No Further Action" letters based on one or more of the following categories: 1) information provided in your pre-inspection questionnaire disclosed little or no solvent use; 2) the results of a staff inspection disclosed little or no solvent use; or 3) completed assessment work indicated insignificant or no solvent contamination in soil.

The purpose of this letter is to inform you that, based on the information provided to U.S. EPA by the Regional Board to date, you will not be asked by the U.S. EPA or the Regional Board to participate in regional groundwater cleanup projects currently planned for San Fernando Valley. Your company is no longer part of the U.S. EPA Superfund process, and the Regional Board and U.S. EPA plan no further action concerning your facility.



You may be contacted by those potentially responsible parties ("PRPs") that have been asked to participate in the groundwater cleanup efforts. In the event you are contacted by PRPs, please feel free to contact the appropriate Regional Board or U.S. EPA staff for additional information or assistance. The telephone numbers of Regional Board and U.S. EPA staff are provided on the enclosed contact list.

Sincerely,

*Keith A. Takata*

Keith A. Takata  
Director  
Superfund Division  
U.S. EPA, Region 9

*Robert P. Ghirelli*

Robert P. Ghirelli, D. Env.  
Executive Officer  
California Regional Water Quality  
Control Board, Los Angeles Office

enclosure

## REPORT

## NESTED VAPOR MONITORING WELL INSTALLATION AND SAMPLING

FORMER SPRAYCO, INC. FACILITY  
12600 SATICOY STREET SOUTH  
NORTH HOLLYWOOD, CALIFORNIA  
(RWQCB FILE No. 111.1004)

JUNE 1995

[illegible]

June 2, 1995

Project No. 93-513

Mr. Mark Ziv  
Director  
TRANS GLOBE LIGHTING  
8238 Lankershim Boulevard  
North Hollywood, California 91605

Nested Vapor Monitoring Well Installation and Sampling  
Former Sprayco, Inc. Facility  
12600 Saticoy Street South  
North Hollywood, California  
(RWQCB File No. 111.1004)

Dear Mr. Ziv:

This report documents the installation and sampling of a nested vapor monitoring well at the former Sprayco, Inc. (Sprayco) facility (the site) at 12600 Saticoy Street South in the North Hollywood area of Los Angeles, California. The site location is shown in Figure 1 and a plan of the site, showing the location of the nested well, is presented in Figure 2.

By way of background, the nested well was requested by the California Regional Water Quality Control Board, Los Angeles Region (RWQCB) in a letter dated October 11, 1994. According to the RWQCB, the purpose of the nested well was "to define the vertical profile of the contamination in the vapor phase in the area where the data showed the presence of contamination." The soil contamination referred to by the RWQCB involves the chlorinated solvents tetrachloroethylene (PCE), 1,1,1-trichloroethane (TCA), 1,1-dichloroethylene (1,1-DCE), and trichloroethylene (TCE), which were released to the subsurface by Sprayco, a former tenant at the site, as described below.

The remainder of this report includes a summary of background information, a description of the nested vapor monitoring well installation and the two rounds of vapor sampling, a summary and a discussion of the results, and conclusions and recommendations.

BACKGROUND INFORMATION

The contaminants present in near-surface soil at the site were released while Sprayco leased the site. Specifically, the contaminants were released during paint stripping operations in which painted metal parts were soaked in a 55-gallon drum of "paint stripper," removed, and then "hosed down" with water. This practice prompted a complaint from a worker at an adjacent property, which, in turn, resulted in an emergency response by the Los Angeles County Fire Department on August 17, 1990. Investigations by the County indicated several

June 2, 1995  
Mr. Mark Ziv  
Page 2

improper solvent and waste solvent handling procedures, in addition to the release of paint stripper to the ground surface. Sprayco vacated the site the early 1990s, leaving the property owner, who was not responsible in any way for the release, to investigate subsurface conditions at the site under the jurisdiction of the RWQCB.

The initial investigation conducted by Geosystem in July 1993 consisted of collecting and analyzing soil samples from shallow hand-augered borings in three suspected release areas identified by RWQCB staff during a site inspection on November 10, 1990. The investigation, reported on October 6, 1993, identified the presence of halogenated and aromatic volatile organic compounds (VOCs) in soil but at relatively low concentrations and generally limited to the upper 5 feet of the soil profile. The locations of the soil borings are shown in Figure 2 and the results of the soil sample analyses are summarized in Table 1.

Based on these findings, the RWQCB requested a near-surface soil gas survey throughout the rear (south) portion of the site and at certain locations inside the building. Soil gas samples were subsequently collected from a nominal depth of 5 feet below grade at 21 locations; 14 outside the building and 7 inside. The samples were analyzed on site for VOCs and, based on the results, additional soil gas samples were collected from 15 feet below grade at the seven locations where the highest VOC concentrations were detected. Of the VOCs analyzed, only PCE, TCA, 1,1-DCE, and TCE were detected in any of the soil gas samples.

PCE concentrations were measured as high as  $128.37 \mu\text{g}/\ell$  outside the building at survey location V-11. Measured PCE concentrations inside the building ranged from  $4.45 \mu\text{g}/\ell$  to  $6.21 \mu\text{g}/\ell$ . TCA concentrations were measured as high as  $62.53 \mu\text{g}/\ell$  outside the building at survey location V-6, and as high as  $26.78 \mu\text{g}/\ell$  inside the building at survey location V-18. Outside the building, 1,1-DCE concentrations ranged from less than  $1 \mu\text{g}/\ell$  (below the detection limit) to  $4.19 \mu\text{g}/\ell$ . Inside the building 1,1-DCE concentrations ranged from less than  $1 \mu\text{g}/\ell$  to  $3.07 \mu\text{g}/\ell$ . Outside the building, TCE ranged in concentration from less than  $1 \mu\text{g}/\ell$  to  $20.26 \mu\text{g}/\ell$  at survey location V-9. TCE was not detected inside the building. Of the four compounds detected, only PCE was detected at concentrations an order of magnitude above measured background values. The highest PCE concentrations occurred outside the building in the southeastern portion of the site in the vicinity of survey locations V-11 and V-14. The soil gas survey locations are shown in Figure 2 and the results are summarized in Table 2.

In response to the results of the near-surface soil gas survey, reported on April 5, 1994, the RWQCB requested, in a letter dated October 11, 1994, a work plan to "define the vertical profile of the contamination in the vapor phase."

### NESTED VAPOR MONITORING WELL INSTALLATION

The nested vapor monitoring well, Well No. NSG-1, was installed by AeroVironment Inc. (AeroVironment), under Geosystem's supervision, on February 10, 1995. The well consists of five separate sample ports installed at nominal depths of 20, 40, 60, 80, and 100 feet below grade. The sample ports are connected to the well head by 1/8-inch diameter Teflon tubing strapped to a 1-inch diameter PVC pipe that extends the full depth of the well. Each sample port is surrounded by No. 3 grade silica sand and separated from adjacent sampling ports by hydrated bentonite. The boring in which the nested wells are installed was drilled using 8-inch diameter, hollow-stem, continuous-flight augers. A lithologic log/well construction diagram for Well NSG-1 is presented in Appendix A.

Undisturbed soil samples were collected at regular intervals during the drilling process. The samples from 20, 40, 70, 80, and 100 feet below grade were analyzed for volatile organic compounds (VOCs) using U.S. Environmental Protection Agency (EPA) Method 8240 by National Environmental Testing, inc. (NET). The samples collected at 40, 70, 80, and 100 feet below grade did not contain any of the VOCs analyzed. Duplicate analyses of the soil sample collected at 20 feet below grade indicated PCE concentrations of 0.047 and 0.007 mg/kg. Copies of the certificates of analyses and sample chain-of-custody documentation are presented in Appendix B.

### VAPOR SAMPLING AND ANALYSIS

In accordance with RWQCB guidance, Well NSG-1 was sampled twice, on March 17 and April 20, 1995, about one and two months, respectively, after the well was installed. In both cases, samples from each of the five sample ports were analyzed on site for VOCs by Environmental Support Technologies (EST), of Laguna Hills, California. In addition, a sample collected in a Tedlar bag on March 17, 1995 from the 100-foot sample port was submitted to Orange Coast Analytical, Inc. (OCA), in Tustin, California, for "corroborative" analysis. The results of the two rounds of vapor sampling and analyses are summarized in Table 3. Details of the procedures and copies of the certificates of analyses and chain-of-custody documentation are included in Appendices C (March 17, 1995) and D (April 20, 1995).

In brief, four VOCs were detected in the soil gas samples extracted from the nested vapor monitoring well. The four VOCs were PCE, TCA, 1,1-DCE, and TCE. PCE was the most prevalent compound and was detected in the samples from all five sample ports on both sampling occasions. The concentrations of PCE in soil gas ranged from 3  $\mu\text{g}/\ell$  in the sample from 80 feet below grade on March 17, 1995 to 143  $\mu\text{g}/\ell$  in the 40-foot sample on April 20, 1995. The distribution of TCA, 1,1-DCE, and TCE was more irregular but, in general, these

compounds were present in one or more of the samples collected on both occasions. The highest concentrations of TCA, 1,1-DCE, and TCE were detected in the samples collected from the 100-foot sample port. This may indicate that the VOC vapors are not emanating from the ground surface.

### SUMMARY AND DISCUSSION

The following summary pertains to the site as a whole and considers the recent data from the nested vapor monitoring well and the results of previous soil and soil gas sampling/analysis.

- o The site is underlain by at least 100 feet of unsaturated granular soil; primarily sands and gravelly sands.
- o Based on contours prepared by the Watermaster for the Upper Los Angeles River Area, the depth to ground water fluctuated between 185 and 260 feet below grade between fall 1977 and fall 1981.
- o The chemical analyses of soil samples collected from hand-augered borings has identified the presence of halogenated and aromatic VOCs in soil but at relatively low concentrations and generally limited to the upper 5 feet of the soil profile. The results of these soil sample analyses are summarized in Table 1.
- o A near-surface soil gas survey indicated that PCE and, to a lesser extent, TCA, 1,1-DCE, and TCE are present in soil gas beneath much of the site. The highest concentrations were reported in the vicinity of the former solvent storage area. The results of the soil gas survey are summarized in Table 2.
- o The data from the nested monitoring well indicate that PCE is present in soil vapor to 100 feet, which is the maximum depth investigated. TCA, 1,1-DCE, and TCE are also present, but they are not detected in all of the samples from the ground surface to 100 feet. The data from the nested well are summarized in Table 3.

As stated in previous reports, it is clear that chemicals released at the Sprayco facility in August 1990 have impacted near-surface soils. However, the VOC concentrations in soil attenuate rapidly with depth to the point that soil samples collected at depths of 20 feet or greater do not contain detectable concentrations. Soil gas samples collected at 20, 40, 60,



80, and 100 feet below grade contain PCE, TCA, 1,1-DCE, and TCE but at low concentrations. Sprayco no longer leases the property and there are no ongoing releases of VOCs at the subject site. The area where the VOCs are believed to have infiltrated into the subsurface is effectively "capped" by high quality asphalt paving, which is expected to all but eliminate the infiltration of surface water runoff and/or direct precipitation. The issue remains, however, whether ground water is likely to be threatened by the VOCs in soil and whether remediation is warranted. This issue is addressed below.

To address the issue of whether the VOCs present in soil warrant remediation, Geosystem evaluated the available data in the context of the RWQCB's February 1995 "Interim Site Assessment and Cleanup Guidebook, Volume 1: Assessment and Cleanup Guidance." More specifically, Geosystem used the "Cleanup Factors for VOCs - Attenuation Factor Method" developed by Yue Rong and Roy Sakaida and included as Appendix A of the above-referenced publication. The application of this method to the site-specific data involves selecting an appropriate attenuation factor ( $AF$ ) and modifying it to account for the depth to ground water and the types of vadose zone soil.

In cases where there are multiple VOC contaminants, RWQCB guidance suggests using an "overall average"  $AF$ , which is based on 29 common VOCs. From tables provided by the RWQCB, this dimensionless average value, termed  $AF_{max}$ , is 255. The modification for the depth to ground water is based on the vertical distance,  $D$ , between the point being considered and the water table. For the purposes of this evaluation, Geosystem considered contaminant concentrations at 1, 1.5, 5, 10, and 20 feet below grade. None of the soil samples collected at more than 20 feet below grade contain detectable concentrations of VOCs. At all of these five depths, the distance to ground water is greater than 150 feet. Therefore, there is no modification to  $AF_{max}$  and  $AF_{max} = AF_D$ . The modification for lithology is based on soil type for which the RWQCB has tabulated values. Based on the vadose zone soils consisting of sands and gravels, the total attenuation factor due to depth and lithology,  $AF_T = AF_D/20$  or 12.75.

To calculate soil cleanup screening levels for individual VOCs,  $AF_T$  is multiplied by the maximum contaminant level (MCL) for that compound. This results in soil cleanup screening levels as follows:

<u>Compound</u>	<u>MCL</u> ( $\mu\text{g/l}$ )	<u>Soil Cleanup</u> <u>Screening Level</u> ( $\mu\text{g/kg}$ )
PCE	5	63.75
TCA	200	2,550.0
1,1-DCE	6	63.75
TCE	5	76.50

The cleanup screening levels for TCA, 1,1-DCE, and TCE have not been exceeded in any of the soil samples collected from the site to date. The PCE screening level has been exceeded in only two of the soil samples analyzed to date; the 1.5- and 5-foot samples from Boring FB-1 in the former solvent storage area.

Using the approach presented in the RWQCB guidance and attributed to Hydro Geo Chem, Geosystem attempted to calculate the total concentrations of PCE in soil based on the reported PCE concentrations in soil gas. Using the average or typical values provided in the RWQCB guidance for the variables, Hydro Geo Chem's formula indicates that PCE concentrations in soil in  $\mu\text{g}/\text{kg}$  should be 1.92 times higher than the corresponding soil gas concentrations in  $\mu\text{g}/\ell$ . However, this relationship is not supported by the available analytical data, which indicate that none of the soil samples collected from below 20 feet contained detectable concentrations of PCE or any other VOC. For example, Hydro Geo Chem's formula suggests that the soil sample collected at 40 feet below grade in the boring for Well NSG-1 should have contained 275  $\mu\text{g}/\text{kg}$  of PCE based on the 143  $\mu\text{g}/\ell$  of PCE detected in the soil gas sample collected at the same depth. However, PCE was not detected in this soil sample with a detection limit of 5  $\mu\text{g}/\text{kg}$ . While it is likely that some volatilization of PCE from the soil matrix has occurred during sampling and sample preparation, it is highly improbable that all of the PCE would volatilize. Geosystem's evaluation of soil cleanup screening levels, therefore, is based on the measured concentrations of VOCs in samples rather than on the results of calculations.

### RECOMMENDATIONS

Although PCE concentrations in the uppermost 5 feet of the soil profile exceed the soil cleanup screening levels, Geosystem does not recommend any remedial measures. This recommendation is based on the following:

- o The area in which PCE concentrations exceed the soil cleanup screening level is very small. Specifically, it is limited to the upper 5 feet of the soil profile in the former solvent storage area.
- o No solvents of any description have been used at the site since Sprayco vacated it. As such, there is no ongoing release and VOC concentrations in soil are expected to attenuate naturally due to diffusion/dilution and biodegradation mechanisms.

June 2, 1995  
Mr. Mark Ziv  
Page 7

- o The surface of the impacted area is sealed with a high quality asphalt pavement, which is expected to preclude the infiltration of surface water, which could leach and transport constituents from near-surface soil to ground water.

Geosystem Consultants, Inc. appreciates the opportunity to be of service. If you have any questions regarding this report or require additional information, please do not hesitate to call.

Respectfully submitted,

GEOSYSTEM CONSULTANTS, INC.

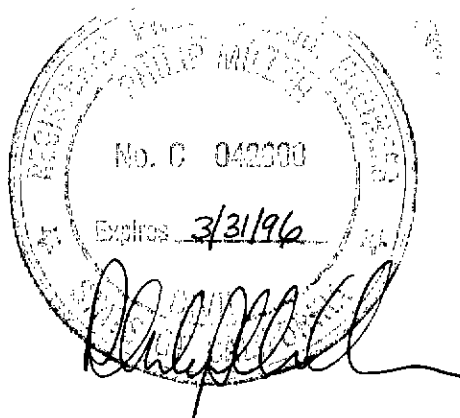


Philip Miller, P.E.  
Project Manager

PM:sh

Attachments

cc: Mr. Joe Luera - RWQCB, Los Angeles Region (3 copies)



TABLES

TABLE 1

## RESULTS OF SOIL SAMPLE ANALYSES

(All units are mg/kg - parts per million)

<u>SAMPLE I.D.</u>	<u>DATE SAMPLED</u>	<u>TETRA CHLORO- ETHYLENE</u>	<u>1,1,2- TRICHLORO- ETHANE</u>	<u>1,1,1- TRICHLORO- ETHANE</u>	<u>TRICHLORO- ETHYLENE</u>	<u>DICHLORO- METHANE <sup>(1)</sup></u>	<u>ETHYL BENZENE</u>	<u>TOLUENE</u>	<u>TOTAL XYLENES</u>	<u>TOTAL PETROLEUM HYDROCARBONS</u>
FB-1 1.5'	07/08/93	32	ND<0.8	ND<0.8	ND<0.8	ND<1.6	ND<0.8	ND<0.8	ND<0.8	2,800
5'	07/08/93	1.1	ND<0.02	0.037	ND<0.02 <sup>(2)</sup>	1.8	ND<0.02	ND<0.02	0.083	180
10'	07/08/93	ND<0.001	0.0017	ND<0.001	ND<0.001	0.014	ND<0.001	ND<0.001	0.0012	9.0
FB-2 1'	07/08/93	0.25	ND<0.004	ND<0.004	ND<0.004	0.061	ND<0.004	ND<0.004	ND<0.004	31
5'	07/08/93	0.012	ND<0.001	ND<0.001	ND<0.001	0.018	ND<0.001	ND<0.001	0.0015	8.0
10'	07/08/93	0.005	ND<0.001	ND<0.001	ND<0.001	0.023	ND<0.001	ND<0.001	0.0015	14
FB-4 1'	08/02/93	0.021	ND<0.001	0.0014	ND<0.001	ND<0.002	0.0026	0.0029	0.015	22
5'	08/02/93	0.029	ND<0.001	ND<0.001	0.0019	ND<0.002	ND<0.001	ND<0.001	ND<0.001	13
10'	08/02/93	0.0034	ND<0.001	ND<0.001	ND<0.001	0.011	ND<0.001	ND<0.001	0.0013	20

NOTES: (1) Dichloroethene detected in lab blanks at concentrations ranging from ND&lt;0.001 to 0.015 parts per million.

(2) Trichloroethylene tentatively detected at a concentration of 0.0079 parts per million.

TABLE 2

**SUMMARY OF SOIL VAPOR SAMPLE RESULTS  
NEAR-SURFACE SOIL GAS SURVEY**

(All units are in µg/l)

<u>SAMPLE I.D.</u>	<u>DEPTH</u> (feet)	<u>DATE</u>	<u>1,1-DICHLORO- ETHYLENE</u>	<u>1,1,1-TRICHLORO- ETHANE</u>	<u>TRICHLORO- ETHYLENE</u>	<u>TETRA- CHLORO- ETHYLENE</u>
SG-V1	5	1/11/94	2.08	29.04	5.23	37.09
SG-V2	5	1/11/94	2.59	33.28	4.92	38.28
SG-V3	5	1/11/94	2.70	31.37	3.57	29.82
SG-V4	5	1/11/94	2.88	37.54	3.69	34.00
SG-V5	5	1/11/94	1.28	29.47	8.98	48.62
SG-V6	5	1/11/94	3.92	62.53	8.54	65.65
SG-V7	5	1/11/94	2.50	44.05	4.60	91.61
SG-V7.1	5	1/12/94	2.94	52.92	4.94	95.95
SG-V7.2	15	1/12/94	4.19	55.12	7.52	63.97
SG-V7.2 <sup>(1)</sup>	15	1/12/94	2.14	19.86	ND<1 <sup>(2)</sup>	12.30
SG-V7.3	5	1/12/94	1.95	36.51	2.52	32.74
SG-V8	5	1/11/94	2.78	46.01	8.91	57.00
SG-V9	5	1/11/94	ND<1	46.91	20.26	59.07
SG-V9.1	15	1/12/94	1.73	47.62	18.44	76.02
SG-V10	5	1/12/94	1.17	51.27	11.24	67.01
SG-V11	5	1/12/94	1.04	51.09	3.63	128.37
SG-V11.1	15	1/12/94	1.05	28.35	2.88	39.30
SG-V11.1 <sup>(1)</sup>	15	1/12/94	ND<1	17.51	1.91	33.87
SG-V12	5	1/12/94	2.60	58.60	6.67	97.91
SG-V12.1	15	1/12/94	3.32	52.59	5.08	52.98
SG-V12.1 <sup>(1)</sup>	15	1/12/94	ND<1	20.61	ND<1	6.02
SG-V12.2	5	1/12/94	0.98	22.53	2.61	73.49
SG-V13	5	1/12/94	1.35	43.93	4.79	78.19
SG-V14	5	1/12/94	1.27	46.92	4.02	85.62
SG-V15	5	1/12/94	ND<1	10.33	ND<1	6.21
SG-V16	5	1/12/94	ND<1	11.85	ND<1	4.54
SG-V17	5	1/12/94	1.04	16.13	ND<1	4.45
SG-V18	5	1/12/94	3.07	26.78	ND<1	6.15
SG-V19	5	1/12/94	2.34	21.31	ND<1	5.52
SG-V20	5	1/12/94	2.58	24.69	ND<1	5.29
SG-V21	5	1/12/94	1.68	14.83	ND<1	5.14
SG-VBG <sup>(3)</sup>	5	1/12/94	1.18	10.34	ND<1	3.35

## NOTES:

(1) Duplicate analysis.

(2) ND denotes Not Detected at detection limit indicated.

(3) Background sample.

**TABLE 3**  
**SUMMARY OF SOIL VAPOR SAMPLE RESULTS**  
**NESTED VAPOR MONITORING WELL**  
 (All units are  $\mu\text{g}/\ell$ )

<u>SAMPLE PORT NO.</u>	<u>DATE</u>	<u>TETRA- CHLORO- ETHYLENE</u>	<u>1,1,1- TRICHLORO- ETHANE</u>	<u>1,1- DICHLORO- ETHYLENE</u>	<u>TRICHLORO- ETHYLENE</u>
NPI-20	03/17/95	18	18	3	1
	04/20/95	47	ND<5	ND<5	ND<5
NPI-40	03/17/95	12	ND<1	ND<1	ND<1
	04/20/95	143	24	8	13
NPI-60	03/17/95	12	ND<1	ND<1	ND<1
	04/20/95	90	21	ND<1	8
NPI-80	03/17/95	3	ND<1	ND<1	ND<1
	04/20/95	49	8	2	11
NPI-100	03/17/95	8	7	2	ND<1
	03/17/95 <sup>(1)</sup>	43	89	23	14
	04/20/95	80	34	8	47

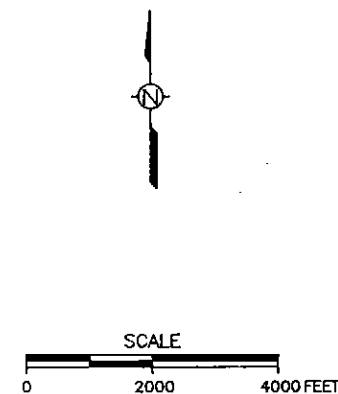
NOTE: (1) Tedlar bag sample.

FIGURES





DRAWN BY SHS  
 CHECKED BY SHS  
 APPROVED BY SHS  
 DATE 07/22/93  
 DWS NO. 93513-001  
 FILE NAME SITELOC

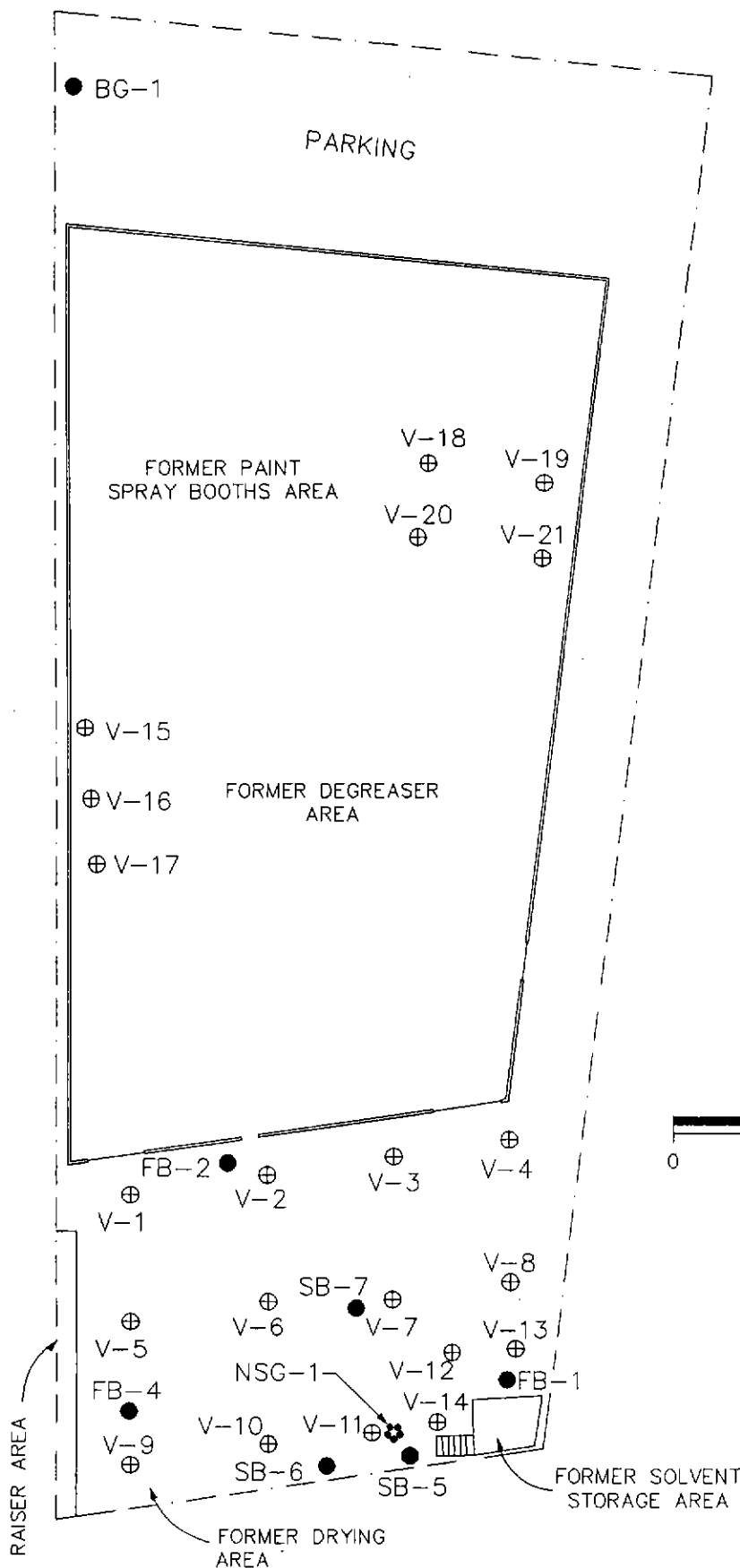


REFERENCE  
 U.S.G.S 7.5 MINUTE SERIES (TOPOGRAPHIC)  
 BURBANK AND VAN NUYS QUADRANGLES,  
 DATED 1986, PHOTOREVISED 1972.  
 SCALE = 1:24,000.

FIGURE 1

SITE LOCATION MAP

FORMER SPRAYCO FACILITY  
 12600 SATICOY STREET SOUTH  
 NORTH HOLLYWOOD, CALIFORNIA  
**GEO SYSTEM**  
 Consultants, Inc.



# LEGEND

- ⊕ SOIL VAPOR SAMPLING LOCATION
- SOIL SAMPLING LOCATION
- ✱ NESTED VAPOR EXTRACTION WELL

FIGURE 2

SITE PLAN

FORMER SPRAYCO FACILITY  
12600 SATICOY STREET SOUTH  
NORTH HOLLYWOOD, CALIFORNIA

**APPENDIX A**

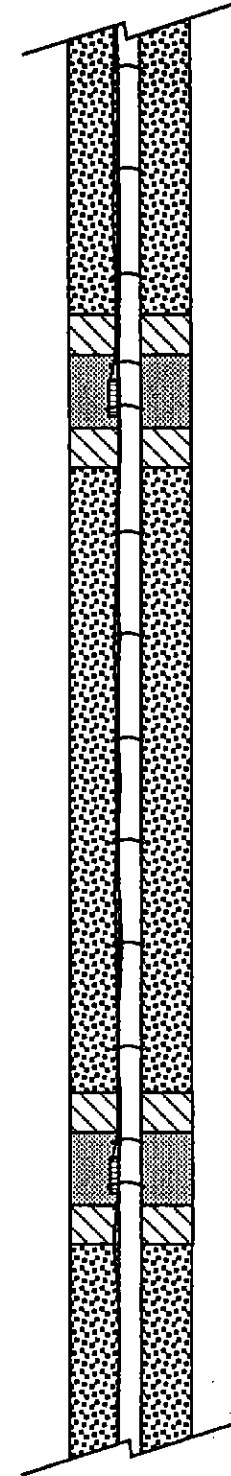
**BORING LOG AND WELL COMPLETION DETAILS  
NESTED SOIL VAPOR MONITORING WELL NSG-1**

Project: Former Sprayco Facility	Field Geologist: Stuart M. Berge
Site Location: 12600 Satcoy Street, North Hollywood, CA	Drillers: Drill Line
Date: 2/10/95	Times: 0751-0958
Drilling Technique: CME-75 Equipped W/8" Dia. Auger	Vapor Analyzer: Foxboro Century OVA
Calibration Gas: Methane	
Sampling Technique: Standard California Split Spoon Sampler Driven 18" Into Undisturbed Soil Using a 140 lb. Slide Hammer With A 30" Drop	

Depth (ft)	Blow Counts	OVA (PPM)	Sample Depth	Sample Number	Sample Location	Lithologic Description	USCS	Graphic Log	Soil Vapor Monitoring Well Construction Configuration
0						0-3" Asphalt	AC		0
5	6 5 8	7.5	4.5-6.0			Sand - Light Yellowish Brown (10 YR 5/6), Medium To Very Coarse Sand, Slightly Moist.	SP		5
10	21 23 35	3	9.5-11.0			Gravelly Sand - Yellowish Brown (10 YR 5/4), Medium To Very Coarse Sand With Little Pebbles To 3 cm Diameter, Slightly Moist.	SW		10
15	13 30 25	1.5	14.5-16.0			Gravelly Sand - Yellowish Brown (10 YR 5/4), Coarse To Gravel To 0.5 cm Diameter, Little Medium Sand And Trace Fine, Slightly Moist.	SW		15
20	13 25 23	NA	19.5-21.0	8602 9318 (DUP)		Gravelly Sand - Yellowish Brown (10 YR 5/4), As Above.	SW		20
25	13 15 19	2.0	24.5-26.0			Sand - Yellowish Brown (10 YR 5/4), Medium Sand, Well Sorted, Slightly Moist.	SP		25

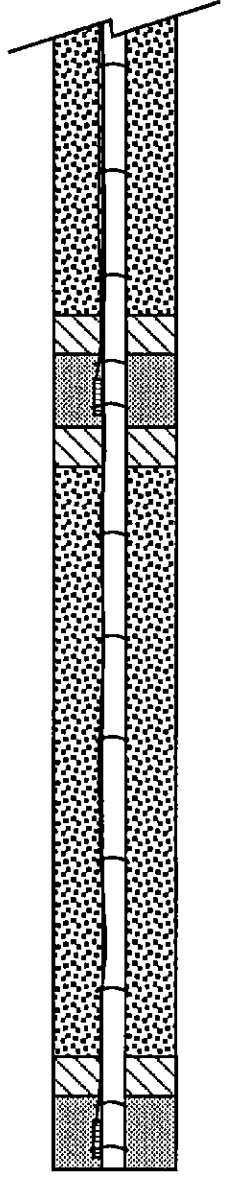
Project: Former Sprayco Facility

Project Number: 300951B

Depth (ft)	Blow Counts	OVA (PPM)	Sample Depth	Sample Number	Sample Location	Lithologic Description	USCS	Graphic Log	Soil Vapor Monitoring Well Construction Configuration
30	24 50	1.0	29.5- 31.0	9319		Gravelly Sand - Yellowish Brown (10 YR 5/6), Fine To Gravels To 1.0 cm Diameter, Very Well Graded, Slightly Moist.	SW	30	
35	44 36 50	1.0	34.5- 41.0			Sand - Yellowish Brown (10 YR 5/6), Fine To Medium Sand, Slightly Moist.	SW	35	
40	27 33 36	1.0	39.5- 41.0			Sand - Yellowish Brown (10 YR 5/4), Medium To Very Coarse Sand, Slightly Moist.	SW	40	
45	26 50	9.0	44.5- 45.5			Silty Gravelly Sand - Light Olive Brown (2.5 Y 5/3), Silts To Gravels To 1 cm Diameter, Very Well Graded, Slightly Moist.	GM	45	
50	37 50/4"	2.0	49.5- 50.3			Silty Gravelly Sand - Grayish Brown (2.5 Y 5/2), As Above.		50	
55	50 50/5"	0.5	54.5- 55.4			Silty Gravelly Sand - Grayish Brown (2.5 Y 5/2), Pebbles To 3 cm Diameter, As Above.		55	
60	60/3"	ND	59.5- 59.8			Sandy Gravel - Dark Grayish Brown (2.5 Y 4/2), Cobbles To 5 cm Diameter, Medium To Very Coarse Sand, Slightly Moist.	GW	60	
65	55/6"	1.0	64.5- 65.0	Gravelly Sand - Olive Brown (2.5 Y 4/3), Fine To Very Coarse Sand With Some Cobbles To 5 cm Diameter, Slightly Moist.	SW	65			

Project: Former Sprayco Facility

Project Number: 300951B

Depth (ft)	Blow Counts	OVA (PPM)	Sample Depth	Sample Number	Sample Location	Lithologic Description	USCS	Graphic Log	Soil Vapor Monitoring Well Construction Configuration
70	50 50/2"	ND	69.5- 70.2	9320		Gravelly Sand - Olive Brown (2.5 Y 4/3), As Above.	SW		 <p>T.D 100'</p>
75	50 60/3"	ND	74.5- 75.3			Sandy Gravel - Very Dark Grayish Brown (2.5 Y 3/2), Gravel To 1.5 cm Diameter With Some Medium To Very Coarse Sand, Slightly Moist.	GW		
80	50/6"	ND	79.5- 80.0	9321		Gravelly Sand - Light Olive Brown (2.5 Y 5/2), Fine To Very Coarse, Pebbles To 1 cm Diameter, Slightly Moist.			
85	60/3"	ND	84.5- 84.8			Gravelly Sand - Light Yellowish Brown (10 YR 5/6), Fine To Very Coarse Sand, Gravel To 5 cm Diameter, Slightly Moist.			
90	50 50/2"	ND	89.5- 90.2			Gravelly Sand - Dark Grayish Brown (2.5 Y 3/2), Fine To Very Coarse Sand, Gravel To 5 cm Diameter, Slightly Moist.	SW		
95	15 36 42	ND	94.5- 96.0			Gravelly Sand - Yellowish Brown (10 YR 5/4), Medium To Very Coarse Sand, Gravels To 0.5 cm Diameter, Moist.			
100	60/6"	ND	99.5- 100.0	9322		Gravelly Sand - Yellowish Brown (10 YR 5/4), As Above, However Large Cobble May Have Caused Sampler Refusal.			
						Borehole Terminated @ 100' BGS.			

**APPENDIX B**

**CERTIFICATES OF ANALYSES  
WELL NSG-1 SOIL SAMPLE ANALYSES**



NATIONAL  
ENVIRONMENTAL  
TESTING, INC.

Burbank Division  
700 South Flower Street  
Burbank, CA 91502  
Tel: (213) 849-6591  
Fax: (818) 567-6477

DOHS Certificate Number: 1192  
LACSD Lab I.D. Number: 10158

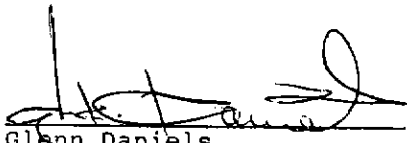
02/16/1995

Stuart Berge  
AeroVironment Inc.  
222 East Huntington Drive  
P.O. Box 5031  
Monrovia, CA 91017-7131

Client Ref: 3009513  
Date Received: 02/10/1995

Sample analysis for the project referred to above has been completed and results are located on attached pages.

Should you have questions regarding procedures or results, please feel welcome to contact our Client Services Representatives or the Laboratory Director.



Glenn Daniels  
Project Manager

KB:rm  
Attachments:  
Analytical Reports  
Chain of Custody Document

Client Net Acct No: 1024  
NET Job No: 95.00175





Client Name: AeroVironment Inc.  
Client Ref.: 3009513

NET Job No.: 95.00175  
Sample ID : 8602  
Lab No. : 76746

Date Taken: 02/10/1995  
Date Reported: 02/16/1995

Sample Matrix: SOIL

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
METHOD 8240(GCMS,Solid)				
Extraction Method		5030		
Date Extracted		02-15-95		
Dilution Factor	8240	1		
Acetone	8240	ND	ug/Kg	50
Benzene	8240	ND	ug/Kg	5
Bromodichloromethane	8240	ND	ug/Kg	5
Bromoform	8240	ND	ug/Kg	5
Bromomethane	8240	ND	ug/Kg	5
2-Butanone	8240	ND	ug/Kg	50
Carbon disulfide	8240	ND	ug/Kg	5
Carbon tetrachloride	8240	ND	ug/Kg	5
Chlorobenzene	8240	ND	ug/Kg	5
Chloroethane	8240	ND	ug/Kg	5
2-Chloroethyl vinyl ether	8240	ND	ug/Kg	10
Chloroform	8240	ND	ug/Kg	5
Chloromethane	8240	ND	ug/Kg	5
Dibromochloromethane	8240	ND	ug/Kg	5
1,2-Dichlorobenzene	8240	ND	ug/Kg	5
1,3-Dichlorobenzene	8240	ND	ug/Kg	5
1,4-Dichlorobenzene	8240	ND	ug/Kg	5
1,1-Dichloroethane	8240	ND	ug/Kg	5
1,2-Dichloroethane	8240	ND	ug/Kg	5
1,1-Dichloroethene	8240	ND	ug/Kg	5
cis-1,2-Dichloroethene	8240	ND	ug/Kg	5
trans-1,2-Dichloroethene	8240	ND	ug/Kg	5
1,2-Dichloropropane	8240	ND	ug/Kg	5
cis-1,3-Dichloropropene	8240	ND	ug/Kg	5
trans-1,3-Dichloropropene	8240	ND	ug/Kg	5
Ethyl benzene	8240	ND	ug/Kg	5
2-Hexanone	8240	ND	ug/Kg	50
Methylene chloride	8240	ND	ug/Kg	10
4-Methyl-2-pentanone	8240	ND	ug/Kg	50
Styrene	8240	ND	ug/Kg	5
1,1,2,2-Tetrachloroethane	8240	ND	ug/Kg	5
Tetrachloroethene	8240	47	ug/Kg	5
Toluene	8240	ND	mm ug/Kg	5
1,1,1-Trichloroethane	8240	ND	ug/Kg	5
1,1,2-Trichloroethane	8240	ND	ug/Kg	5
Trichloroethene	8240	ND	ug/Kg	5
Trichlorofluoromethane	8240	ND	ug/Kg	5
Vinyl acetate	8240	ND	ug/Kg	10
Vinyl chloride	8240	ND	ug/Kg	5
Xylenes (total)	8240	ND	ug/Kg	5
SURROGATE RESULTS		--		
Spk Conc Toluene-d8	8240	50	ug/Kg	
Toluene-d8	8240	99	% Rec.	
Spk Conc Bromofluorobenzene	8240	50	ug/Kg	
Bromofluorobenzene	8240	106	% Rec.	

ND: Not Detected at the Reporting Limit (RL), if a dilution factor is reported the R.L. must be multiplied by the dilution factor to obtain actual R.L.

Client Name: AeroVironment Inc.  
Client Ref.: 3009513

NET Job No.: 95.00175  
Sample ID : 8602  
Lab No. : 76746

Date Taken: 02/10/1995  
Date Reported: 02/16/1995

Sample Matrix: SOIL

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
Spk Conc 1,2-DCA-d4	8240	50	ug/Kg	
1,2-Dichloroethane-d4	8240	102	% Rec.	

ND: Not Detected at the Reporting Limit (RL), if a dilution factor is reported  
the R.L. must be multiplied by the dilution factor to obtain actual R.L.

Client Name: AeroVironment Inc.  
Client Ref.: 3009513

Date Taken: 02/10/1995  
Date Reported: 02/16/1995

NET Job No.: 95.00175  
Sample ID : 9319  
Lab No. : 76747

Sample Matrix: SOIL

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
METHOD 8240 (GCMS, Solid)				
Extraction Method		5030		
Date Extracted		02-15-95		
Date Analyzed		02-15-95		
Dilution Factor	8240	1		
Acetone	8240	ND	ug/Kg	50
Benzene	8240	ND	ug/Kg	5
Bromodichloromethane	8240	ND	ug/Kg	5
Bromoform	8240	ND	ug/Kg	5
Bromomethane	8240	ND	ug/Kg	5
2-Butanone	8240	ND	ug/Kg	50
Carbon disulfide	8240	ND	ug/Kg	5
Carbon tetrachloride	8240	ND	ug/Kg	5
Chlorobenzene	8240	ND	ug/Kg	5
Chloroethane	8240	ND	ug/Kg	5
2-Chloroethyl vinyl ether	8240	ND	ug/Kg	10
Chloroform	8240	ND	ug/Kg	5
Chloromethane	8240	ND	ug/Kg	5
Dibromochloromethane	8240	ND	ug/Kg	5
1,2-Dichlorobenzene	8240	ND	ug/Kg	5
1,3-Dichlorobenzene	8240	ND	ug/Kg	5
1,4-Dichlorobenzene	8240	ND	ug/Kg	5
1,1-Dichloroethane	8240	ND	ug/Kg	5
1,2-Dichloroethane	8240	ND	ug/Kg	5
1,1-Dichloroethene	8240	ND	ug/Kg	5
cis-1,2-Dichloroethene	8240	ND	ug/Kg	5
trans-1,2-Dichloroethene	8240	ND	ug/Kg	5
1,2-Dichloropropane	8240	ND	ug/Kg	5
cis-1,3-Dichloropropene	8240	ND	ug/Kg	5
trans-1,3-Dichloropropene	8240	ND	ug/Kg	5
Ethyl benzene	8240	ND	ug/Kg	5
2-Hexanone	8240	ND	ug/Kg	50
Methylene chloride	8240	ND	ug/Kg	10
4-Methyl-2-pentanone	8240	ND	ug/Kg	50
Methyl-tert-butyl-ether	8240	ND	ug/Kg	10
Styrene	8240	ND	ug/Kg	5
1,1,2,2-Tetrachloroethane	8240	ND	ug/Kg	5
Tetrachloroethene	8240	ND	ug/Kg	5
Toluene	8240	ND	ug/Kg	5
1,1,1-Trichloroethane	8240	ND	ug/Kg	5
1,1,2-Trichloroethane	8240	ND	ug/Kg	5
Trichloroethene	8240	ND	ug/Kg	5
Trichlorofluoromethane	8240	ND	ug/Kg	5
Vinyl acetate	8240	ND	ug/Kg	10
Vinyl chloride	8240	ND	ug/Kg	5
Xylenes (total)	8240	ND	ug/Kg	5
SURROGATE RESULTS		--		
Spk Conc Toluene-d8	8240	50	ug/Kg	
Toluene-d8	8240	99	% Rec.	

ND: Not Detected at the Reporting Limit (RL), if a dilution factor is reported  
the R.L. must be multiplied by the dilution factor to obtain actual R.L.

Client Name: AeroVironment Inc.  
Client Ref.: 3009513

NET Job No.: 95.00175  
Sample ID : 9319  
Lab No. : 76747

Date Taken: 02/10/1995  
Date Reported: 02/16/1995

Sample Matrix: SOIL

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
Spk Conc Bromofluorobenzene	8240	50	ug/Kg	
Bromofluorobenzene	8240	103	% Rec.	
Spk Conc 1,2-DCA-d4	8240	50	ug/Kg	
1,2-Dichloroethane-d4	8240	101	% Rec.	

ND: Not Detected at the Reporting Limit (RL), if a dilution factor is reported  
the R.L. must be multiplied by the dilution factor to obtain actual R.L.

Client Name: AeroVironment Inc.  
Client Ref.: 3009513

NET Job No.: 95.00175  
Sample ID : 9320  
Lab No. : 76748

Date Taken: 02/10/1995  
Date Reported: 02/16/1995

Sample Matrix: SOIL

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
METHOD 8240(GCMS,Solid)				
Extraction Method		5030		
Date Extracted		02-15-95		
Dilution Factor	8240	1		
Acetone	8240	ND	ug/Kg	50
Benzene	8240	ND	ug/Kg	5
Bromodichloromethane	8240	ND	ug/Kg	5
Bromoform	8240	ND	ug/Kg	5
Bromomethane	8240	ND	ug/Kg	5
2-Butanone	8240	ND	ug/Kg	50
Carbon disulfide	8240	ND	ug/Kg	5
Carbon tetrachloride	8240	ND	ug/Kg	5
Chlorobenzene	8240	ND	ug/Kg	5
Chloroethane	8240	ND	ug/Kg	5
2-Chloroethyl vinyl ether	8240	ND	ug/Kg	10
Chloroform	8240	ND	ug/Kg	5
Chloromethane	8240	ND	ug/Kg	5
Dibromochloromethane	8240	ND	ug/Kg	5
1,2-Dichlorobenzene	8240	ND	ug/Kg	5
1,3-Dichlorobenzene	8240	ND	ug/Kg	5
1,4-Dichlorobenzene	8240	ND	ug/Kg	5
1,1-Dichloroethane	8240	ND	ug/Kg	5
1,2-Dichloroethane	8240	ND	ug/Kg	5
1,1-Dichloroethene	8240	ND	ug/Kg	5
cis-1,2-Dichloroethene	8240	ND	ug/Kg	5
trans-1,2-Dichloroethene	8240	ND	ug/Kg	5
1,2-Dichloropropane	8240	ND	ug/Kg	5
cis-1,3-Dichloropropene	8240	ND	ug/Kg	5
trans-1,3-Dichloropropene	8240	ND	ug/Kg	5
Ethyl benzene	8240	ND	ug/Kg	5
2-Hexanone	8240	ND	ug/Kg	50
Methylene chloride	8240	ND	ug/Kg	10
4-Methyl-2-pentanone	8240	ND	ug/Kg	50
Styrene	8240	ND	ug/Kg	5
1,1,2,2-Tetrachloroethane	8240	ND	ug/Kg	5
Tetrachloroethene	8240	ND	ug/Kg	5
Toluene	8240	ND	ug/Kg	5
1,1,1-Trichloroethane	8240	ND	ug/Kg	5
1,1,2-Trichloroethane	8240	ND	ug/Kg	5
Trichloroethene	8240	ND	ug/Kg	5
Trichlorofluoromethane	8240	ND	ug/Kg	5
Vinyl acetate	8240	ND	ug/Kg	10
Vinyl chloride	8240	ND	ug/Kg	5
Xylenes (total)	8240	ND	ug/Kg	5
SURROGATE RESULTS		--		
Spk Conc Toluene-d8	8240	50	ug/Kg	
Toluene-d8	8240	99	% Rec.	
Spk Conc Bromofluorobenzene	8240	50	ug/Kg	
Bromofluorobenzene	8240	104	% Rec.	

ND: Not Detected at the Reporting Limit (RL), if a dilution factor is reported  
the R.L. must be multiplied by the dilution factor to obtain actual R.L.

Client Name: AeroVironment Inc.  
Client Ref.: 3009513

NET Job No.: 95.00175  
Sample ID : 9320  
Lab No. : 76748

Date Taken: 02/10/1995  
Date Reported: 02/16/1995

Sample Matrix: SOIL

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
Spk Conc 1,2-DCA-d4	8240	50	ug/Kg	
1,2-Dichloroethane-d4	8240	101	% Rec.	

ND: Not Detected at the Reporting Limit (RL), if a dilution factor is reported  
the R.L. must be multiplied by the dilution factor to obtain actual R.L.

Client Name: AeroVironment Inc.  
Client Ref.: 3009513

Date Taken: 02/10/1995  
Date Reported: 02/16/1995

NET Job No.: 95.00175  
Sample ID : 9321  
Lab No. : 76749

Sample Matrix: SOIL

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
METHOD 8240(GCMS, Solid)				
Extraction Method		5030		
Date Extracted		02-15-95		
Dilution Factor	8240	1		
Acetone	8240	ND	ug/Kg	50
Benzene	8240	ND	ug/Kg	5
Bromodichloromethane	8240	ND	ug/Kg	5
Bromoform	8240	ND	ug/Kg	5
Bromomethane	8240	ND	ug/Kg	5
2-Butanone	8240	ND	ug/Kg	50
Carbon disulfide	8240	ND	ug/Kg	5
Carbon tetrachloride	8240	ND	ug/Kg	5
Chlorobenzene	8240	ND	ug/Kg	5
Chloroethane	8240	ND	ug/Kg	5
2-Chloroethyl vinyl ether	8240	ND	ug/Kg	10
Chloroform	8240	ND	ug/Kg	5
Chloromethane	8240	ND	ug/Kg	5
Dibromochloromethane	8240	ND	ug/Kg	5
1,2-Dichlorobenzene	8240	ND	ug/Kg	5
1,3-Dichlorobenzene	8240	ND	ug/Kg	5
1,4-Dichlorobenzene	8240	ND	ug/Kg	5
1,1-Dichloroethane	8240	ND	ug/Kg	5
1,2-Dichloroethane	8240	ND	ug/Kg	5
1,1-Dichloroethene	8240	ND	ug/Kg	5
cis-1,2-Dichloroethene	8240	ND	ug/Kg	5
trans-1,2-Dichloroethene	8240	ND	ug/Kg	5
1,2-Dichloropropane	8240	ND	ug/Kg	5
cis-1,3-Dichloropropene	8240	ND	ug/Kg	5
trans-1,3-Dichloropropene	8240	ND	ug/Kg	5
Ethyl benzene	8240	ND	ug/Kg	5
2-Hexanone	8240	ND	ug/Kg	50
Methylene chloride	8240	ND	ug/Kg	10
4-Methyl-2-pentanone	8240	ND	ug/Kg	50
Styrene	8240	ND	ug/Kg	5
1,1,2,2-Tetrachloroethane	8240	ND	ug/Kg	5
Tetrachloroethene	8240	ND	ug/Kg	5
Toluene	8240	ND	ug/Kg	5
1,1,1-Trichloroethane	8240	ND	ug/Kg	5
1,1,2-Trichloroethane	8240	ND	ug/Kg	5
Trichloroethene	8240	ND	ug/Kg	5
Trichlorofluoromethane	8240	ND	ug/Kg	5
Vinyl acetate	8240	ND	ug/Kg	10
Vinyl chloride	8240	ND	ug/Kg	5
Xylenes (total)	8240	ND	ug/Kg	5
SURROGATE RESULTS		--		
Spk Conc Toluene-d8	8240	50	ug/Kg	
Toluene-d8	8240	100	% Rec.	
Spk Conc Bromofluorobenzene	8240	50	ug/Kg	
Bromofluorobenzene	8240	103	% Rec.	

ND: Not Detected at the Reporting Limit (RL), if a dilution factor is reported  
the R.L. must be multiplied by the dilution factor to obtain actual R.L.

Client Name: AeroVironment Inc.  
Client Ref.: 3009513

NET Job No.: 95.00175  
Sample ID : 9321  
Lab No. : 76749

Date Taken: 02/10/1995  
Date Reported: 02/16/1995

Sample Matrix: SOIL

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
Spk Conc 1,2-DCA-d4	8240	50	ug/Kg	
1,2-Dichloroethane-d4	8240	99	% Rec.	

ND: Not Detected at the Reporting Limit (RL), if a dilution factor is reported  
the R.L. must be multiplied by the dilution factor to obtain actual R.L.



Client Name: AeroVironment Inc.  
Client Ref.: 3009513

NET Job No.: 95.00175  
Sample ID : 9322  
Lab No. : 76750

Date Taken: 02/10/1995  
Date Reported: 02/16/1995

Sample Matrix: SOIL

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
METHOD 8240(GCMS, Solid)				
Extraction Method		5030		
Date Extracted		02-15-95		
Dilution Factor	8240	1		
Acetone	8240	ND	ug/Kg	50
Benzene	8240	ND	ug/Kg	5
Bromodichloromethane	8240	ND	ug/Kg	5
Bromoform	8240	ND	ug/Kg	5
Bromomethane	8240	ND	ug/Kg	5
2-Butanone	8240	ND	ug/Kg	50
Carbon disulfide	8240	ND	ug/Kg	5
Carbon tetrachloride	8240	ND	ug/Kg	5
Chlorobenzene	8240	ND	ug/Kg	5
Chloroethane	8240	ND	ug/Kg	5
2-Chloroethyl vinyl ether	8240	ND	ug/Kg	10
Chloroform	8240	ND	ug/Kg	5
Chloromethane	8240	ND	ug/Kg	5
Dibromochloromethane	8240	ND	ug/Kg	5
1,2-Dichlorobenzene	8240	ND	ug/Kg	5
1,3-Dichlorobenzene	8240	ND	ug/Kg	5
1,4-Dichlorobenzene	8240	ND	ug/Kg	5
1,1-Dichloroethane	8240	ND	ug/Kg	5
1,2-Dichloroethane	8240	ND	ug/Kg	5
1,1-Dichloroethene	8240	ND	ug/Kg	5
cis-1,2-Dichloroethene	8240	ND	ug/Kg	5
trans-1,2-Dichloroethene	8240	ND	ug/Kg	5
1,2-Dichloropropane	8240	ND	ug/Kg	5
cis-1,3-Dichloropropene	8240	ND	ug/Kg	5
trans-1,3-Dichloropropene	8240	ND	ug/Kg	5
Ethyl benzene	8240	ND	ug/Kg	5
2-Hexanone	8240	ND	ug/Kg	50
Methylene chloride	8240	ND	ug/Kg	10
4-Methyl-2-pentanone	8240	ND	ug/Kg	50
Styrene	8240	ND	ug/Kg	5
1,1,2,2-Tetrachloroethane	8240	ND	ug/Kg	5
Tetrachloroethene	8240	ND	ug/Kg	5
Toluene	8240	ND	ug/Kg	5
1,1,1-Trichloroethane	8240	ND	ug/Kg	5
1,1,2-Trichloroethane	8240	ND	ug/Kg	5
Trichloroethene	8240	ND	ug/Kg	5
Trichlorofluoromethane	8240	ND	ug/Kg	5
Vinyl acetate	8240	ND	ug/Kg	10
Vinyl chloride	8240	ND	ug/Kg	5
Xylenes (total)	8240	ND	ug/Kg	5
SURROGATE RESULTS		--		
Spk Conc Toluene-d8	8240	50	ug/Kg	
Toluene-d8	8240	98	% Rec.	
Spk Conc Bromofluorobenzene	8240	50	ug/Kg	
Bromofluorobenzene	8240	104	% Rec.	

ND: Not Detected at the Reporting Limit (RL), if a dilution factor is reported  
the R.L. must be multiplied by the dilution factor to obtain actual R.L.

Client Name: AeroVironment Inc.  
Client Ref.: 3009513

NET Job No.: 95.00175  
Sample ID : 9322  
Lab No. : 76750

Date Taken: 02/10/1995  
Date Reported: 02/16/1995

Sample Matrix: SOIL

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
Spk Conc 1,2-DCA-d4	8240	50	ug/Kg	
1,2-Dichloroethane-d4	8240	99	% Rec.	

ND: Not Detected at the Reporting Limit (RL), if a dilution factor is reported  
the R.L. must be multiplied by the dilution factor to obtain actual R.L.

Client Name: AeroVironment Inc.  
Client Ref.: 3009513

NET Job No.: 95.00175  
Sample ID : 9318  
Lab No. : 76751

Date Taken: 02/10/1995  
Date Reported: 02/16/1995

Sample Matrix: SOIL

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
METHOD 8240(GCMS, Solid)				
Extraction Method		5030		
Date Extracted		02-15-95		
Dilution Factor	8240	1		
Acetone	8240	ND	ug/Kg	50
Benzene	8240	ND	ug/Kg	5
Bromodichloromethane	8240	ND	ug/Kg	5
Bromoform	8240	ND	ug/Kg	5
Bromomethane	8240	ND	ug/Kg	5
2-Butanone	8240	ND	ug/Kg	50
Carbon disulfide	8240	ND	ug/Kg	5
Carbon tetrachloride	8240	ND	ug/Kg	5
Chlorobenzene	8240	ND	ug/Kg	5
Chloroethane	8240	ND	ug/Kg	5
2-Chloroethyl vinyl ether	8240	ND	ug/Kg	10
Chloroform	8240	ND	ug/Kg	5
Chloromethane	8240	ND	ug/Kg	5
Dibromochloromethane	8240	ND	ug/Kg	5
1,2-Dichlorobenzene	8240	ND	ug/Kg	5
1,3-Dichlorobenzene	8240	ND	ug/Kg	5
1,4-Dichlorobenzene	8240	ND	ug/Kg	5
1,1-Dichloroethane	8240	ND	ug/Kg	5
1,2-Dichloroethane	8240	ND	ug/Kg	5
1,1-Dichloroethene	8240	ND	ug/Kg	5
cis-1,2-Dichloroethene	8240	ND	ug/Kg	5
trans-1,2-Dichloroethene	8240	ND	ug/Kg	5
1,2-Dichloropropane	8240	ND	ug/Kg	5
cis-1,3-Dichloropropene	8240	ND	ug/Kg	5
trans-1,3-Dichloropropene	8240	ND	ug/Kg	5
Ethyl benzene	8240	ND	ug/Kg	5
2-Hexanone	8240	ND	ug/Kg	50
Methylene chloride	8240	ND	ug/Kg	10
4-Methyl-2-pentanone	8240	ND	ug/Kg	50
Styrene	8240	ND	ug/Kg	5
1,1,2,2-Tetrachloroethane	8240	ND	ug/Kg	5
Tetrachloroethene	8240	7	ug/Kg	5
Toluene	8240	ND	ug/Kg	5
1,1,1-Trichloroethane	8240	ND	ug/Kg	5
1,1,2-Trichloroethane	8240	ND	ug/Kg	5
Trichloroethene	8240	ND	ug/Kg	5
Trichlorofluoromethane	8240	ND	ug/Kg	5
Vinyl acetate	8240	ND	ug/Kg	10
Vinyl chloride	8240	ND	ug/Kg	5
Xylenes (total)	8240	ND	ug/Kg	5
SURROGATE RESULTS		--		
Spk Conc Toluene-d8	8240	50	ug/Kg	
Toluene-d8	8240	100	% Rec.	
Spk Conc Bromofluorobenzene	8240	50	ug/Kg	
Bromofluorobenzene	8240	102	% Rec.	

ND: Not Detected at the Reporting Limit (RL), if a dilution factor is reported  
the R.L. must be multiplied by the dilution factor to obtain actual R.L.

Client Name: AeroVironment Inc.  
Client Ref.: 3009513

Date Taken: 02/10/1995  
Date Reported: 02/16/1995

NET Job No.: 95.00175  
Sample ID : 9318  
Lab No. : 76751

Sample Matrix: SOIL

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
Spk Conc 1,2-DCA-d4	8240	50	ug/Kg	
1,2-Dichloroethane-d4	8240	100	% Rec.	

ND: Not Detected at the Reporting Limit (RL), if a dilution factor is reported  
the R.L. must be multiplied by the dilution factor to obtain actual R.L.

## QUALITY CONTROL REPORT

AeroVironment Inc.  
222East Huntington Drive  
P.O. Box 5031  
Monrovia, CA 91017-7131  
Stuart Berge

02/16/1995

NET Job Number: 95.00175

Enclosed is the Quality Control data for the following samples submitted to NET, Inc. - Burbank for analysis:

Sample Number	Sample Description	Date Taken	Date Received
76746	8602	02/10/1995	02/10/1995
76747	9319	02/10/1995	02/10/1995
76748	9320	02/10/1995	02/10/1995
76749	9321	02/10/1995	02/10/1995
76750	9322	02/10/1995	02/10/1995
76751	9318	02/10/1995	02/10/1995

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

# QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

NET Job Number: 95.00175

02/16/1995

Analyte	Run	Run	CCV	Concentration	Percent
	Batch	Batch	True		
	Number	Flags	Concentration	Found	Recovery
METHOD 8240(GCMS,Solid)					
Bromoform	238		50.0	51.5	103.0
Chlorobenzene	238		50.0	52.3	104.6
Chloroform	238		50.0	51.6	103.2
Chloromethane	238		50.0	51.5	103.0
1,1-Dichloroethane	238		50.0	52.3	104.6
1,1-Dichloroethene	238		50.0	54.4	108.8
1,2-Dichloropropane	238		50.0	53.7	107.4
Ethyl benzene	238		50.0	53.3	106.6
Methyl-tert-butyl-ether	238		50	51.5	103.0
1,1,2,2-Tetrachloroethane	238		50.0	51.2	102.4
Toluene	238		50.0	53.5	107.0
Vinyl chloride	238		50.0	52.6	105.2

CCV - Continuing Calibration Verification

# QUALITY CONTROL REPORT BLANKS

NET Job Number: 95.00175

02/16/1995

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis	Flags	Units
METHOD 8240(GCMS,Solid)					
Acetone		238	ND		ug/Kg
Benzene		238	ND		ug/Kg
Bromodichloromethane		238	ND		ug/Kg
Bromoform		238	ND		ug/Kg
Bromomethane		238	ND		ug/Kg
2-Butanone		238	ND		ug/Kg
Carbon disulfide		238	ND		ug/Kg
Carbon tetrachloride		238	ND		ug/Kg
Chlorobenzene		238	ND		ug/Kg
Chloroethane		238	ND		ug/Kg
2-Chloroethyl vinyl ether		238	ND		ug/Kg
Chloroform		238	ND		ug/Kg
Chloromethane		238	ND		ug/Kg
Dibromochloromethane		238	ND		ug/Kg
1,2-Dichlorobenzene		238	ND		ug/Kg
1,3-Dichlorobenzene		238	ND		ug/Kg
1,4-Dichlorobenzene		238	ND		ug/Kg
1,1-Dichloroethane		238	ND		ug/Kg
1,2-Dichloroethane		238	ND		ug/Kg
1,1-Dichloroethene		238	ND		ug/Kg
cis-1,2-Dichloroethene		238	ND		ug/Kg
trans-1,2-Dichloroethene		238	ND		ug/Kg
1,2-Dichloropropane		238	ND		ug/Kg
cis-1,3-Dichloropropene		238	ND		ug/Kg
trans-1,3-Dichloropropene		238	ND		ug/Kg
Ethyl benzene		238	ND		ug/Kg
2-Hexanone		238	ND		ug/Kg
Methylene chloride		238	ND		ug/Kg
4-Methyl-2-pentanone		238	ND		ug/Kg
Methyl-tert-butyl-ether		238	ND		ug/Kg
Styrene		238	ND		ug/Kg
1,1,2,2-Tetrachloroethane		238	ND		ug/Kg

**Advisory Control Limits for Blanks:**

Metals/Wet Chemistry/ Conventional/GC - all compounds should be less than the Reporting Limit.

GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

Volatiles - Toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit. All other volatile compounds should be less than the Reporting Limit.

# QUALITY CONTROL REPORT BLANKS

NET Job Number: 95.00175

02/16/1995

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis	Flags	Units
Tetrachloroethene		238	ND		ug/Kg
Toluene		238	ND		ug/Kg
1,1,1-Trichloroethane		238	ND		ug/Kg
1,1,2-Trichloroethane		238	ND		ug/Kg
Trichloroethene		238	ND		ug/Kg
Trichlorofluoromethane		238	ND		ug/Kg
Vinyl acetate		238	ND		ug/Kg
Vinyl chloride		238	ND		ug/Kg
Xylenes (total)		238	ND		ug/Kg
Spk Conc Toluene-d8		238	50		ug/Kg
Toluene-d8		238	99		% Rec.
Spk Conc Bromofluorobenzene		238	50		ug/Kg
Bromofluorobenzene		238	106		% Rec.
Spk Conc 1,2-DCA-d4		238	50		ug/Kg
1,2-Dichloroethane-d4		238	100		% Rec.

## Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventional/GC - all compounds should be less than the Reporting Limit.

GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

Volatiles - Toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit. All other volatile compounds should be less than the Reporting Limit.



# QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

NET Job Number: 95.00175

02/16/1995

Analyte	Prep Batch Number	Run Batch Number	LCS True Concentration	LCS Concentration Found	LCS % Recovery	Flags/ RPD %	Units
METHOD 8240(GCMS,Solid)							
Benzene		238	25	25.8	103.2		ug/Kg
Chlorobenzene		238	25	22.8	91.2		ug/Kg
1,1-Dichloroethene		238	25	27.8	111.2		ug/Kg
Methyl-tert-butyl-ether		238	25	27.2	108.8		ug/Kg
Toluene		238	25	24.8	99.2		ug/Kg
Trichloroethene		238	25	22.4	89.6		ug/Kg
Toluene-d8		238	25	24.6	98.4		% Rec.
Bromofluorobenzene		238	25	26.6	106.4		% Rec.
1,2-Dichloroethane-d4		238	25	24.9	99.6		% Rec.

LCS - Laboratory Control Standard

Advisory Control Limits - Inorganics - LCS recovery should be 80 - 120%.

# QUALITY CONTROL REPORT MATRIX SPIKE/MATRIX SPIKE DUPLICATE

NET Job Number: 95.00175

02/16/1995

Analyte	Prep Batch Number	Run Batch Number	Matrix Spike Result	Sample Result	Spike/ MSD Amount	Units	Percent Recovery	MSD Result	Percent Recovery	MS/MSD RPD	Flags
METHOD 8240(GCMS,Solid)											
Benzene		238	19.6	ND	25	ug/Kg	78.4	20.3	81.2	3.5	
Chlorobenzene		238	20.0	ND	25	ug/Kg	80.0	21.5	86.0	7.2	
1,1-Dichloroethene		238	24.5	ND	25	ug/Kg	98.0	23.8	95.2	2.9	
Toluene		238	18.4	ND	25	ug/Kg	73.6	19.2	76.8	4.3	mm
Trichloroethene		238	20.1	ND	25	ug/Kg	80.4	20.5	82.0	2.0	

MS = Matrix Spike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Difference

# QUALITY CONTROL REPORT DUPLICATES

NET Job Number: 95.00175

02/16/1995

Analyte	Prep Batch Number	Run Batch Number	Original Analysis	Duplicate Analysis	Units	Flags	RPD
METHOD 8240(GCMS,Solid)							
Acetone		238	ND	ND	ug/Kg		
Benzene		238	ND	ND	ug/Kg		
Bromodichloromethane		238	ND	ND	ug/Kg		
Bromoform		238	ND	ND	ug/Kg		
Bromomethane		238	ND	ND	ug/Kg		
2-Butanone		238	ND	ND	ug/Kg		
Carbon disulfide		238	ND	ND	ug/Kg		
Carbon tetrachloride		238	ND	ND	ug/Kg		
Chlorobenzene		238	ND	ND	ug/Kg		
Chloroethane		238	ND	ND	ug/Kg		
2-Chloroethyl vinyl ether		238	ND	ND	ug/Kg		
Chloroform		238	ND	ND	ug/Kg		
Chloromethane		238	ND	ND	ug/Kg		
Dibromochloromethane		238	ND	ND	ug/Kg		
1,2-Dichlorobenzene		238	ND	ND	ug/Kg		
1,3-Dichlorobenzene		238	ND	ND	ug/Kg		
1,4-Dichlorobenzene		238	ND	ND	ug/Kg		
1,1-Dichloroethane		238	ND	ND	ug/Kg		
1,2-Dichloroethane		238	ND	ND	ug/Kg		
1,1-Dichloroethene		238	ND	ND	ug/Kg		
cis-1,2-Dichloroethene		238	ND	ND	ug/Kg		
trans-1,2-Dichloroethene		238	ND	ND	ug/Kg		
1,2-Dichloropropane		238	ND	ND	ug/Kg		
cis-1,3-Dichloropropene		238	ND	ND	ug/Kg		
trans-1,3-Dichloropropene		238	ND	ND	ug/Kg		
Ethyl benzene		238	ND	ND	ug/Kg		
2-Hexanone		238	ND	ND	ug/Kg		
Methylene chloride		238	ND	ND	ug/Kg		
4-Methyl-2-pentanone		238	ND	ND	ug/Kg		
Styrene		238	ND	ND	ug/Kg		
1,1,2,2-Tetrachloroethane		238	ND	ND	ug/Kg		
Tetrachloroethene		238	ND	ND	ug/Kg		
Toluene		238	ND	ND	ug/Kg		
1,1,1-Trichloroethane		238	ND	ND	ug/Kg		
1,1,2-Trichloroethane		238	ND	ND	ug/Kg		

NOTE: Spikes and Duplicates may not be samples from this job.

RPD - Relative Percent Difference

Advisory Control Limits for Duplicates - RPD should be less than 20.

# QUALITY CONTROL REPORT DUPLICATES

NET Job Number: 95.00175

02/16/1995

Analyte	Prep Batch Number	Run Batch Number	Original Analysis	Duplicate Analysis	Units	Flags	RPD
Trichloroethene		238	ND	ND	ug/Kg		
Trichlorofluoromethane		238	ND	ND	ug/Kg		
Vinyl acetate		238	ND	ND	ug/Kg		
Vinyl chloride		238	ND	ND	ug/Kg		
Xylenes (total)		238	ND	ND	ug/Kg		
SURROGATE RESULTS		238	---	--			

NOTE: Spikes and Duplicates may not be samples from this job.

RPD - Relative Percent Difference

Advisory Control Limits for Duplicates - RPD should be less than 20.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LOS ANGELES REGION

LABORATORY REPORT FORM

Laboratory Name: NET, INC.

Address: 700 SOUTH FLOWER ST., Burbank, CA 91502

Telephone: (213) 849-6591

Laboratory Certification

(ELAP) No.: 1192

Expiration Date: 05/31/1996

Laboratory Director's Name (Print): Rick Schrynemeeckers

Laboratory Director's Signature: \_\_\_\_\_

Client: AeroVironment Inc.

Project Name: 3009513

Project No: 95.00175

Analytical Method: EPA 502.1	EPA 503.1	EPA 502.2	EPA 524.1
(Box One)			EPA 524.2
EPA 601	EPA 602		EPA 624
EPA 8010	EPA 8020	EPA 8021	EPA 8240
			EPA 8260

Other \_\_\_\_\_

Date Sampled:	_____	_____	_____	02/10/1995
Date Received:	_____	_____	_____	02/10/1995
Date Reported:	_____	_____	_____	02/16/1995

Sample Matrix: \_\_\_\_\_

SOIL

Extraction Method: \_\_\_\_\_

EPA 5030

Extraction Material: \_\_\_\_\_

REAGENT WA

Chain of Custody Received: Yes

Sample Condition: \_\_\_\_\_

-- Sample Headspace Description (%): 0

-- Sample Container Material: BRASS

ANALYTICAL TEST RESULT\*

Reporting Unit (Circle One): ug/kg ug/L

DATE ANALYZED			02/15/95	02/15/95	02/15/95
DATE EXTRACTED			02/15/95	02/15/95	01/15/95
DILUTION FACTOR			1	1	1
LAB SAMPLE I.D.			76746	76747	76748
CLIENT SAMPLE I.D.			8602	9319	9320
COMPOUND <sup>b</sup>	MDL	MB			
Bromobenzene	NA	NA	NA	NA	NA
Bromodichloromethane	0.9	ND	ND	ND	ND
Bromoform	1.4	ND	ND	ND	ND
Bromomethane	0.6	ND	ND	ND	ND
Carbon tetrachloride	0.6	ND	ND	ND	ND
Chloroethane	0.8	ND	ND	ND	ND
Chloroform	0.7	ND	ND	ND	ND
1-Chlorohexane	NA	NA	NA	NA	NA
Chloromethane	0.7	ND	ND	ND	ND
Dibromochloromethane	1.2	ND	ND	ND	ND
Dibromomethane	NA	NA	NA	NA	NA
Dichlorodifluoromethane	NA	NA	NA	NA	NA
1,1-Dichloroethane (1,1-DCA)	0.7	ND	ND	ND	ND
1,2-Dichloroethane (1,2-DCA)	1.3	ND	ND	ND	ND
1,1-Dichloroethylene (1,1-DCE)	0.6	ND	ND	ND	ND
trans-1,2-Dichloroethylene	0.6	ND	ND	ND	ND
Dichloromethane	1.5	ND	ND	ND	ND
1,2-Dichloropropane	0.7	ND	ND	ND	ND
cis-1,3-Dichloropropylene	1.5	ND	ND	ND	ND

## ANALYTICAL TEST RESULT (cont'd)

COMPOUND <sup>b</sup>	MDL	MB	76746	76747	76748
trans-1,3-Dichloropropylene	0.7	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	2.0	ND	ND	ND	ND
Tetrachloroethylene (PCE)	0.5	ND	47	ND	ND
1,1,1-Trichloroethane (111-TCA)	0.6	ND	ND	ND	ND
1,1,2-Trichloroethane (112-TCA)	2.0	ND	ND	ND	ND
Trichloroethylene (TCE)	0.9	ND	ND	ND	ND
1,2,3-Trichloropropane	NA	NA	NA	NA	NA
Trichlorofluoromethane	0.3	ND	ND	ND	ND
Vinyl chloride	0.8	ND	ND	ND	ND
Benzene	0.6	ND	ND	ND	ND
Chlorobenzene	1.0	ND	ND	ND	ND
1,2-Dichlorobenzene	0.4	ND	ND	ND	ND
1,3-Dichlorobenzene	0.4	ND	ND	ND	ND
1,4-Dichlorobenzene	0.5	ND	ND	ND	ND
Ethyl benzene	0.7	ND	ND	ND	ND
Toluene	1.1	ND	ND	ND	ND
m,p-Xylenes	NA	NA	NA	NA	NA
o-Xylene	NA	NA	NA	NA	NA
Xylenes (Total)	2.0	ND	ND	ND	ND
Acetone	3.4	ND	ND	ND	ND
Acrolein	NA	NA	NA	NA	NA
Acrylonitrile	NA	NA	NA	NA	NA
Bromochloromethane	NA	NA	NA	NA	NA

## ANALYTICAL TEST RESULT (cont'd)

COMPOUND <sup>b</sup>	MDL	MB	76746	76747	76748
n-Butylbenzene	NA	NA	NA	NA	NA
sec-Butylbenzene	NA	NA	NA	NA	NA
tert-Butylbenzene	NA	NA	NA	NA	NA
2-Chloroethylvinyl ether	0.7	ND	ND	ND	ND
2-Chlorotoluene	NA	NA	NA	NA	NA
4-Chlorotoluene	NA	NA	NA	NA	NA
Dichlorodifluoromethane	NA	NA	NA	NA	NA
cis-1,2-Dichloroethylene	0.6	ND	ND	ND	ND
1,3 Dichloropropane	NA	NA	NA	NA	NA
2,2-Dichloropropane	NA	NA	NA	NA	NA
1,1-Dichloropropylene	NA	NA	NA	NA	NA
Ethylene dibromide (EDB)	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA
Isopropylbenzene	NA	NA	NA	NA	NA
p-Isopropyltoluene	NA	NA	NA	NA	NA
Methyl Ethyl Ketone	NA	NA	NA	NA	NA
Methyl Isobutyl Ketone	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA
n-Propylbenzene	0.3	ND	ND	ND	ND
Stryrene	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	NA	NA	NA	NA	NA
1,1,2-Trichloro-trifluoroethane	NA	NA	NA	NA	NA



# ANALYTICAL TEST RESULT (cont'd)

SURROGATE	SPK CONC	ACP%	MB %RC	76746	76747	76748
				%RC	%RC	%RC
Toluene-d8	25	70-130	99	99	99	99
Bromofluorobenzene	25	70-130	106	106	103	104
1,2-Dichloroethane-d4	25	70-130	100	102	101	101

\* = Report Any Value  $\geq$  MDL; b = Listed Compounds Are Ordered by Laboratory Analytical Methods Halogenated, Aromatic, then Remaining Compounds Identified by GC/MS,  
 SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %RC = % Recovery  
 MDL = Method Detection Limit; MB = Method Blank; MD = Not Detected (Below MDL); NA = Not Analyzed

# ANALYTICAL TEST RESULT\*

Reporting Unit (Circle One): ug/kg ug/L

DATE ANALYZED			02/15/95	02/15/95	02/15/95
DATE EXTRACTED			02/15/95	02/15/95	02/15/95
DILUTION FACTOR			1	1	1
LAB SAMPLE I.D.			76749	76750	76751
CLIENT SAMPLE I.D.			9321	9322	9318
COMPOUND <sup>b</sup>	MDL	MB			
Bromobenzene	NA	NA	NA	NA	NA
Bromodichloromethane	0.9	ND	ND	ND	ND
Bromoform	1.4	ND	ND	ND	ND
Bromomethane	0.6	ND	ND	ND	ND
Carbon tetrachloride	0.6	ND	ND	ND	ND
Chloroethane	0.8	ND	ND	ND	ND
Chloroform	0.7	ND	ND	ND	ND
1-Chlorohexane	NA	NA	NA	NA	NA
Chloromethane	0.7	ND	ND	ND	ND
Dibromochloromethane	1.2	ND	ND	ND	ND
Dibromomethane	NA	NA	NA	NA	NA
Dichlorodifluoromethane	NA	NA	NA	NA	NA
1,1-Dichloroethane (1,1-DCA)	0.7	ND	ND	ND	ND
1,2-Dichloroethane (1,2-DCA)	1.3	ND	ND	ND	ND
1,1-Dichloroethylene (1,1-DCE)	0.6	ND	ND	ND	ND
trans-1,2-Dichloroethylene	0.6	ND	ND	ND	ND
Dichloromethane	1.5	ND	ND	ND	ND
1,2-Dichloropropane	0.7	ND	ND	ND	ND
cis-1,3-Dichloropropylene	1.5	ND	ND	ND	ND

## ANALYTICAL TEST RESULT (cont'd)

COMPOUND <sup>b</sup>	MDL	MB	76749	76750	76751
trans-1,3-Dichloropropylene	0.7	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	2.0	ND	ND	ND	ND
Tetrachloroethylene (PCE)	0.5	ND	ND	ND	7
1,1,1-Trichloroethane (111-TCA)	0.6	ND	ND	ND	ND
1,1,2-Trichloroethane (112-TCA)	2.0	ND	ND	ND	ND
Trichloroethylene (TCE)	0.9	ND	ND	ND	ND
1,2,3-Trichloropropane	NA	NA	NA	NA	NA
Trichlorofluoromethane	0.3	ND	ND	ND	ND
Vinyl chloride	0.8	ND	ND	ND	ND
Benzene	0.6	ND	ND	ND	ND
Chlorobenzene	1.0	ND	ND	ND	ND
1,2-Dichlorobenzene	0.4	ND	ND	ND	ND
1,3-Dichlorobenzene	0.4	ND	ND	ND	ND
1,4-Dichlorobenzene	0.5	ND	ND	ND	ND
Ethyl benzene	0.7	ND	ND	ND	ND
Toluene	1.1	ND	ND	ND	ND
m,p-Xylenes	NA	NA	NA	NA	NA
o-Xylene	NA	NA	NA	NA	NA
Xylenes (Total)	2.0	ND	ND	ND	ND
Acetone	3.4	ND	ND	ND	ND
Acrolein	NA	NA	NA	NA	NA
Acrylonitrile	NA	NA	NA	NA	NA
Bromochloromethane	NA	NA	NA	NA	NA

## ANALYTICAL TEST RESULT (cont'd)

COMPOUND <sup>b</sup>	MDL	MB	76749	76750	76751
n-Butylbenzene	NA	NA	NA	NA	NA
sec-Butylbenzene	NA	NA	NA	NA	NA
tert-Butylbenzene	NA	NA	NA	NA	NA
2-Chloroethylvinyl ether	0.7	ND	ND	ND	ND
2-Chlorotoluene	NA	NA	NA	NA	NA
4-Chlorotoluene	NA	NA	NA	NA	NA
Dichlorodifluoromethane	NA	NA	NA	NA	NA
cis-1,2-Dichloroethylene	0.6	ND	ND	ND	ND
1,3 Dichloropropane	NA	NA	NA	NA	NA
2,2-Dichloropropane	NA	NA	NA	NA	NA
1,1-Dichloropropylene	NA	NA	NA	NA	NA
Ethylene dibromide (EDB)	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA
Isopropylbenzene	NA	NA	NA	NA	NA
p-Isopropyltoluene	NA	NA	NA	NA	NA
Methyl Ethyl Ketone	NA	NA	NA	NA	NA
Methyl Isobutyl Ketone	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA
n-Propylbenzene	0.3	ND	ND	ND	ND
Stryrene	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	NA	NA	NA	NA	NA
1,1,2-Trichloro-trifluoroethane	NA	NA	NA	NA	NA

# ANALYTICAL TEST RESULT (cont'd)

				76749	76750	76751
SURROGATE	SPK CONC	ACP%	MB %RC	%RC	%RC	%RC
Toluene-d8	25	70-130	99	100	98	100
Bromofluorobenzene	25	70-130	106	103	104	102
1,2-Dichloroethane-d4	25	70-130	100	99	99	100

\* = Report Any Value  $\geq$  MDL; b = Listed Compounds Are Ordered by Laboratory Analytical Methods Halogenated, Aromatic, then Remaining Compounds Identified by GC/MS,

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %RC = % Recovery

MDL = Method Detection Limit; MB = Method Blank; MD = Not Detected (Below MDL); NA = Not Analyzed

QA/OC REPORT  
Reporting Unit (Circle One) :  ug/L

I. Matrix Spike (MS)/Matrix Spike Duplicate (MSD)

DATE PERFORMED: 02/15/1995

BATCH #: 238

LAB SAMPLE I.D.: 76746

ANALYTE	SPK CONC	MS	% MS	MSD	% MSD	RPD	ACP %MS	ACP RPD
Benzene	25	19.6	78.4	20.3	81.2	3.5	70-130	25
Chlorobenzene	25	20.0	80.0	21.5	86.0	7.2	70-130	25
1,1-Dichloroethene	25	24.5	98.0	23.8	95.2	2.9	70-130	25
Toluene	25	18.4	73.6	19.2	76.8	4.3	70-130	25
Trichloroethene	25	20.1	80.4	20.5	82.0	2.0	70-130	25

QA/QC REPORT  
Reporting Unit (Circle One) : ug/kg ug/L

II. Laboratory Quality Control Check Sample

DATE PERFORMED: 02/15/1995

BATCH #: 238

LAB SAMPLE I.D. \_\_\_\_\_

ANALYTE	SPK CONC	RESULT	%RECOVERY	ACP %
Benzene	25	25.8	103.2	80-120
Chlorobenzene	25	22.8	91.2	80-120
1,1-Dichloroethene	25	27.8	111.2	80-120
Methyl-tert-butyl-ether	25	27.2	108.8	80-120
Toluene	25	24.8	99.2	80-120
Trichloroethene	25	22.4	89.6	80-120

ANALYST: \_\_\_\_\_

DATE: 02/15/1995

## Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\15FEB95\V8348.D  
 Acq On : 15 Feb 95 10:07 am  
 Sample : 50 PPB8240 STD V1467  
 Misc : 02-15-95

Vial: 2  
 Operator: XU  
 Inst : 5970 - In  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\RVOA.M  
 Title : EPA 8240  
 Last Update : Tue Feb 14 20:56:49 1995  
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev (Min)
1 I	Bromochloromethane	1.000	1.000	0.0	139	0.04
2 P	Chloromethane	1.263	1.302	-3.0	135	0.06
3 C	Vinyl Chloride	1.677	1.763	-5.1	146	0.06
4	Bromomethane	1.667	1.726	-3.5	140	0.07
5	Chloroethane	1.048	1.098	-4.7	141	0.06
6	Trichlorfluoromethane	4.374	4.336	0.9	134	0.05
7 CM	1,1-Dichloroethene	1.492	1.624	-8.9	144	0.05
8	Acrolein	0.020	0.020	-3.0	109	0.02
9	Freon113	3.131	3.942	-25.9#	228#	0.04
10	Carbon disulfide	4.759	4.696	1.3	135	0.06
11	Acetone	0.311	0.390	-25.7#	153#	0.00
12	Methylene chloride	1.880	1.949	-3.7	144	0.04
13	Acrylonitrile	0.249	0.264	-6.1	120	0.03
14	Trans-1,2-Dichloroethene	1.802	1.964	-9.0	148	0.04
15	MTBE	4.133	4.254	-2.9	135	0.00
16 P	1,1-Dichloroethane	3.742	3.914	-4.6	142	0.04
17	Cis-1,2-Dichloroethene	1.672	1.761	-5.3	145	0.04
18 C	Chloroform	4.163	4.300	-3.3	144	0.04
19 S	1,2-Dichloroethane-d4 (surr)	1.649	1.702	-3.2	133	0.04
20	1,2-Dichloroethane	2.541	2.543	-0.1	138	0.05
21	1,4-Difluorobenzene	1.000	1.000	0.0	129	0.04
22	Vinyl acetate	0.625	0.677	-8.4	135	0.04
23	2-Butanone	0.031	0.034	-9.6	141	0.03
24	1,1,1-Trichloroethane	0.899	0.992	-10.3	142	0.04
25	Carbontetrachloride	0.829	0.877	-5.8	135	0.04
26 M	Benzene	1.457	1.658	-13.8	144	0.05
27 M	Trichloroethene	0.595	0.663	-11.4	141	0.04
28 C	1,2-Dichloropropane	0.575	0.618	-7.5	135	0.04
29	Bromodichloromethane	0.963	1.016	-5.5	132	0.04
30	2-Chloroethyl vinyl ether	0.495	0.525	-6.1	133	0.04
31	Cis-1,3-Dichloropropene	0.894	0.964	-7.8	134	0.04
32	Trans-1,3-Dichloropropene	0.619	0.652	-5.3	129	0.04
33	1,1,2-Trichloroethane	0.440	0.481	-9.1	134	0.03
34	Dibromochloromethane	0.725	0.757	-4.3	127	0.04
35 P	Bromoform	0.469	0.483	-2.9	117	0.04
36	Chlorobenzene-d5	1.000	1.000	0.0	129	0.04
37	4-Methyl-2-Pentanone	0.526	0.491	6.6	120	0.03
38 S	Toluene-d8 (surr)	1.419	1.331	6.2	125	0.04
39 MC	Toluene	1.376	1.472	-7.0	143	0.04

(#) = Out of Range

V8348.D RVOA.M

Wed Feb 15 10:34:49 1995



# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\15FEB95\V8348.D  
 Acq On : 15 Feb 95 10:07 am  
 Sample : 50 PPB8240 STD V1467  
 Misc : 02-15-95

Vial: 2  
 Operator: XU  
 Inst : 5970 - In  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\RVOA.M  
 Title : EPA 8240  
 Last Update : Tue Feb 14 20:56:49 1995  
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
40	Tetrachloroethene	0.655	0.704	-7.5	139	0.03
41	2-Hexanone	0.329	0.329	0.0	124	0.04
42 PM	Chlorobenzene	1.531	1.602	-4.6	134	0.04
43 C	Ethylbenzene	0.848	0.904	-6.6	137	0.03
44	M+P-xylene	1.046	1.130	-8.0	138	0.04
45	O-xylene	0.916	0.973	-6.2	132	0.03
46	Styrene	1.496	1.549	-3.5	125	0.03
47 S	4-Bromofluorobenzene (surr)	0.894	0.943	-5.5	129	0.04
48 P	1,1,2,2,-Tetrachloroethane	0.816	0.836	-2.5	119	0.03
49	1,3-Dichlorobenzene	1.272	1.058	16.8	98	0.04
50	1,4-Dichlorobenzene	1.321	1.095	17.1	97	0.04
51	1,2-Dichlorobenzene	1.174	0.952	18.9	92	0.05

(#) = Out of Range  
 V8348.D RVOA.M

SPCC's out = 0 CCC's out = 0  
 Wed Feb 15 10:34:53 1995

Method : C:\HPCHEM\1\METHODS\RVOA.M  
Title : EPA 8240  
Last Update : Tue Feb 14 20:56:49 1995  
Response via : Initial Calibration

STD Vendor Accustar  
STD Log# V1467  
Run time 2-13-95

Calibration Files

50 =V8310.D 15 =V8308.D 100 =V8320.D  
150 =V8321.D 200 =V8309.D

Compound		50	15	100	150	200	Avg	%RSD
-----ISTD-----								
1) I	Bromochloromethane							
2) P	Chloromethane	1.336	1.417	1.201	1.162	1.200	1.3	8.57#
3) C	Vinyl Chloride	1.678	1.993	1.547	1.504	1.663	1.7	11.44
4)	Bromomethane	1.705	1.994	1.529	1.470	1.640	1.7	12.26
5)	Chloroethane	1.079	1.313	0.933	0.903	1.015	1.0	15.60
6)	Trichlorofluoromethane	4.482	5.524	3.862	3.714	4.288	4.4	16.32
7) CM	1,1-Dichloroethene	1.559	1.740	1.383	1.360	1.417	1.5	10.64
8)	Acrolein	0.026	0.016	0.019	0.019	0.019	0.0	18.55
9)	Freon113	2.396	3.861	3.406	3.564	2.430	3.1	21.58
10)	Carbon disulfide	4.813	6.058	4.025	4.018	4.882	4.8	17.56
11)	Acetone	0.353	0.376	0.264	0.249	0.311	0.3	17.73
12)	Methylene chloride	1.876	2.666	1.570	1.524	1.765	1.9	24.57
13)	Acrylonitrile	0.305	0.189	0.244	0.229	0.276	0.2	18.03
14)	Trans-1,2-Dichloroeth	1.837	2.103	1.626	1.607	1.839	1.8	11.17
15)	MTBE	4.363	4.577	3.978	3.703	4.045	4.1	8.26
16) P	1,1-Dichloroethane	3.816	4.306	3.405	3.374	3.810	3.7	10.15#
17)	Cis-1,2-Dichloroethen	1.685	1.915	1.509	1.533	1.717	1.7	9.79
18) C	Chloroform	4.137	4.822	3.772	3.736	4.349	4.2	10.78
19) S	1,2-Dichloroethane-d4	1.767	1.689	1.591	1.553	1.644	1.6	5.10
20)	1,2-Dichloroethane	2.552	2.898	2.333	2.222	2.701	2.5	10.75
-----ISTD-----								
21)	1,4-Difluorobenzene							
22)	Vinyl acetate	0.646	0.711	0.563	0.510	0.694	0.6	13.78
23)	2-Butanone	0.031	0.043	0.027	0.022	0.033	0.0	24.88
24)	1,1,1-Trichloroethane	0.902	1.071	0.811	0.787	0.923	0.9	12.46
25)	Carbontetrachloride	0.839	0.950	0.748	0.731	0.876	0.8	11.00
26) M	Benzene	1.484	1.703	1.337	1.283	1.477	1.5	11.20
27) M	Trichloroethene	0.605	0.694	0.547	0.522	0.606	0.6	11.19
28) C	1,2-Dichloropropane	0.590	0.657	0.536	0.508	0.586	0.6	9.94
29)	Bromodichloromethane	0.990	1.134	0.865	0.825	1.001	1.0	12.71
30)	2-Chloroethyl vinyl e	0.510	0.557	0.469	0.419	0.521	0.5	10.68
31)	Cis-1,3-Dichloropropen	0.925	1.023	0.814	0.776	0.934	0.9	11.14
32)	Trans-1,3-Dichloroprop	0.649	0.699	0.563	0.526	0.655	0.6	11.55
33)	1,1,2-Trichloroethane	0.461	0.509	0.405	0.370	0.457	0.4	12.29
34)	Dibromochloromethane	0.766	0.843	0.652	0.608	0.757	0.7	13.02
35) P	Bromoform	0.531	0.444	0.444	0.401	0.525	0.5	12.11#
-----ISTD-----								
36)	Chlorobenzene-d5							
37)	4-Methyl-2-Pentanone	0.528	0.596	0.484	0.436	0.586	0.5	12.89
38) S	Toluene-d8 (surr)	1.376	1.396	1.444	1.475	1.407	1.4	2.80
39) MC	Toluene	1.330	1.691	1.255	1.226	1.379	1.4	13.52
40)	Tetrachloroethene	0.650	0.773	0.600	0.585	0.665	0.7	11.32

(#) = Out of Range  
RVOA.M

Wed Feb 15 16:38:08 1995

## Response Factor Report 5970 - In

Method : C:\HPCHEM\1\METHODS\RVOA.M  
Title : EPA 8240  
Last Update : Tue Feb 14 20:56:49 1995  
Response via : Initial Calibration

## Calibration Files

50 =V8310.D 15 =V8308.D 100 =V8320.D  
150 =V8321.D 200 =V8309.D

Compound		50	15	100	150	200	Avg	%RSD
41)	2-Hexanone	0.343	0.377	0.307	0.261	0.359	0.3	13.97
42)	PM Chlorobenzene	1.543	1.754	1.413	1.382	1.563	1.5	9.63#
43)	C Ethylbenzene	0.850	0.989	0.776	0.758	0.867	0.8	10.77
44)	M+P-xylene	1.055	1.249	0.948	0.931	1.050	1.0	12.11
45)	O-xylene	0.946	1.061	0.828	0.803	0.942	0.9	11.33
46)	Styrene	1.593	1.630	1.350	1.304	1.605	1.5	10.45
47)	S 4-Bromofluorobenzene	0.938	0.701	0.938	0.930	0.961	0.9	12.11
48)	P 1,1,2,2,-Tetrachloroe	0.908	0.778	0.787	0.722	0.885	0.8	9.52#
49)	1,3-Dichlorobenzene	1.391	1.248	1.201	1.171	1.349	1.3	7.44
50)	1,4-Dichlorobenzene	1.456	1.307	1.243	1.208	1.391	1.3	7.78
51)	1,2-Dichlorobenzene	1.332	1.178	1.090	1.058	1.213	1.2	9.23

(#) = Out of Range  
RVOA.M

Wed Feb 15 16:38:11 1995

## CHAIN-OF-CUSTODY RECORD

**AeroVironment Inc.**222 East Huntington Drive, P.O. Box 5031  
Monrovia, California 91017-7131  
Telephone 818/357-9983  
FAX 818/359-9628

Send report to the attention of:

STUART W. BERKE

No 0891

AV Project No. 3009513

P.O. #

Sampled by STUART BERKE

Lab Sample Number	AV Sample Number	Date sampled	Time sampled	Type* see key below	Number of containers	Analyses Required											Hazardous sample Special handling required	Remarks
						Halogen Volatiles 801/8010	Aromatic Volatiles 801/8020	Purgeables GC/MS 625/8240	TPH 418.1	TPFH Modified 8015	Base/Neutral/Acids GC/MS 625/8270	Pesticides/PCB 808/8080						
8602	NSG-1-20	2/10/85	0809	50	1		X											76746
9319	NSG-1-40		0825				X											76747
9320	NSG-1-70		0909				X											76748
9321	NSG-1-80		0935				X											76749
9322	NSG-1-100		0958				X											76750
9318	NSG-1-DUP	↓		↓	↓		X											76751

Signature	Print Name	Company	Date	Time	*KEY
Relinquished by <i>Stuart W. Burke</i>	STUART BERKE	AEROVIRONMENT	2/10/85	245	AQ-Aqueous
Received by					NA-Nonaqueous
Relinquished by					SL-Sludge
Received by					GW-Groundwater
Relinquished by					SO-Soil
Received by Laboratory <i>Shane Parker</i>	SHANE PARKER	NET	2/10/85	245	OT-Other
					PE-Petroleum

WHITE COPY - AV PROJECT MANAGER

CANARY COPY - LABORATORY

PINK COPY - CHRON FILE

AV-F-OA-18

Rec. @ 70

**APPENDIX C**

**SOIL GAS SAMPLING AND ANALYSES  
MARCH 17, 1995**



R. DEIVED

MAR 31 1995

March 28, 1995

EST 1244

Mr. Phil Miller  
Geosystem Consultants  
18218 McDermott East, Suite G  
Irvine, California 92714

Subject: Field Analyses Results of Soil Gas Samples from Nested Probes  
Former Sprayco Site  
12600 Saticoy Street South, North Hollywood, California

Dear Mr. Miller:

Environmental Support Technologies, Inc. (EST) is pleased to submit field analyses results for soil gas samples collected from nested probes at the former Sprayco site located at 12600 Saticoy Street South in North Hollywood, California.

Results of the soil gas sample analyses performed on March 17, 1995 are summarized in Table 1. Some factors that affect the distribution of volatile organic compounds (VOCs) in the subsurface are listed in Appendix A. Field analyses results, quality assurance/quality control data and three point calibration data for soil gas samples are included in Appendix B. Analyses results and chain of custody documentation for the Tedlar™ bag sample are provided in Appendix C.

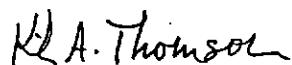
Soil gas samples were analyzed on-site using a gas chromatograph (GC) equipped with a photo-ionization detector (PID) and an electrolytic conductivity detector (ELCD) placed in series. The GC configuration used a megabore capillary column to allow resolution and quantitation of EPA Method 8010/8020 compounds, including halogenated and aromatic hydrocarbons. Soil gas sample collection and analysis were performed in accordance with Los Angeles Regional Water Quality Control Board (LARWQCB) protocols dated March 8, 1994. Details of EST's standard methods and procedures for nested soil gas sampling probes are provided in Appendix D.

Compound concentrations detected in the Tedlar™ bag confirmation sample were higher than concentrations detected in the field. This may be the result of variations in the gas stream during probe purging.

Should you have any questions or comments, please contact me at (714) 457-9664.

Sincerely,

Environmental Support Technologies, Inc.

A handwritten signature in cursive script, reading "Kirk A. Thomson".

Kirk A. Thomson, R.G., R.E.A.  
Project Manager/Principal Hydrogeologist

cc: EST Project File

TABLE 1  
SUMMARY OF FIELD ANALYSES RESULTS  
FOR SOIL GAS SAMPLES COLLECTED  
FROM NESTED PROBES

FORMER SPRAYCO SITE  
12600 SATICOY STREET, NORTH HOLLYWOOD, CALIFORNIA

File: 1244T1.WK3  
March 24, 1995

PROBE NUMBER	SAMPLING EVENTS	PROBE DEPTH (ft)	DCE (ug/L)	TCA (ug/L)	TCE (ug/L)	PCE (ug/L)
NP1-20	1	20	3	18	1	18
NP1-40	2	40	ND<1	ND<1	ND<1	12
NP1-60	1	60	ND<1	ND<1	ND<1	12
NP1-80	1	80	ND<1	ND<1	ND<1	3
NP1-100	3	100	2	7	ND<1	8
NP1-100	1 (TEDLAR BAG)	100	23 (5.8 ppm(v))	89 (16 ppm(v))	14 (2.5 ppm(v))	43 (6.2 ppm(v))

(ft) = feet below grade

(ug/L) = micrograms per liter

DCE = 1,1-Dichloroethene

TCA = 1,1,1-Trichloroethane

TCE = Trichloroethene

PCE = Tetrachloroethene

ND = Not Detected; Constituent is below reportable limit of quantitation

ppm(v) = parts per million by volume

NOTE = Values reported are the highest detected within calibration range.



## APPENDICES

## Appendix A

### FACTORS AFFECTING THE GAS-PHASE DISTRIBUTION OF VOCs IN THE SUBSURFACE

Soil and groundwater contamination by volatile organic compounds (VOCs) can often be detected by analyzing trace gases in soil just below ground surface. This technique is possible because many VOCs will volatilize and move by molecular diffusion away from source areas toward regions of lower concentrations. A gas phase concentration gradient from the source to adjacent areas is established.

The following factors affect the transport and gas phase distribution of VOCs in the subsurface.

1. The liquid-gas partitioning coefficient of the compounds of interest (the "volatility" of the compound).
2. The vapor diffusivity, which is a measure of how quickly an individual compound "spreads out" within a volume of gas.
3. Retardation of the individual compounds as they migrate in the soil gas. Retardation may be due to degradation, adsorption on the soil matrix, tortuosity of the soil profile, or entrapment in unconnected pores.
4. The presence of impeding layers, wetting fronts of freshwater, or perched water tables, between the regional water table and ground surface.
5. The presence of soil moisture around man-made structures such as clarifiers and sumps may suppress volatilization and diffusion of VOCs resulting in false negative or low soil gas concentrations.
6. The presence of contaminants from localized spills or in the ambient air.
7. Movement of soil gas in response to barometric pressure changes.
8. The preferential migration of gas through zones of greater permeability (e.g. natural lithologic variation or back-fill of underground utilities).

At most sites, many of these factors are unknown or poorly understood. Because of this uncertainty, soil gas sampling should be used in conjunction with other site-specific data.

**Appendix B**

**FIELD ANALYSES RESULTS FOR  
HALOGENATED AND AROMATIC HYDROCARBONS**

**(INCLUDING CALIBRATION REPORTS, QUALITY CONTROL  
REPORTS,  
AND EXPLANATION OF METHOD DETECTION LIMITS)**

**TABLE B-1**  
**HALOGENATED AND AROMATIC HYDROCARBONS**  
**FIELD ANALYSES RESULTS FOR SOIL GAS SAMPLES**  
**SUBJECT SITE, NORTH HOLLYWOOD, CALIFORNIA**  
**25-TARGET COMPOUND LIST**

PID/ELCD #1 - 3/17/95  
 FILE: XXXASGPP.WK3

SAMPLE ID			NP1-100	NP1-100	NP1-100	NP1-80	NP1-60	NP1-40	NP1-20	NP1-40
DATE			3/17/95	3/17/95	3/17/95	3/17/95	3/17/95	3/17/95	3/17/95	3/17/95
TIME			10:11	10:30	10:48	11:23	11:42	11:58	12:18	12:38
INJECTION VOLUME (ul)			500	500	500	500	500	500	500	50
PURGE VOLUME (ml)			500	1000	1500	400	300	200	100	400
VACUUM (in. Hg)			ND	ND	ND	ND	ND	ND	ND	ND
DILUTION FACTOR			1.0	1.0	1.0	1.0	1.0	1.0	1.0	10.0
COMMENTS										
	RT	ARF								
Dichlorodifluoromethane	3:25	2.85E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
Vinyl chloride	3:59	1.11E+09	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
Chloroethane	3:87	1.28E+09	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
Trichlorofluoromethane	4:12	1.09E+09	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
1,1,2-Trichloro-trifluoroethane	4:87	1.81E+09	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
1,1-Dichloroethene	4:64	3.27E+07	0.00E+00 ND<1	0.00E+00 ND<1	3.79E+04 2	0.00E+00 ND<1	0.00E+00 ND<1	0.00E+00 ND<1	4.11E+04 3	0.00E+00 ND<10
Methylene chloride	5:13	1.32E+09	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
trans-1,2-Dichloroethene	5:40	1.13E+09	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
1,1-Dichloroethane	5:81	1.22E+09	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
cis-1,2-Dichloroethene	6:38	1.20E+09	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
Chloroform	6:68	1.61E+09	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
1,1,1-Trichloroethane	6:94	1.47E+09	3.53E+05 ND<1	0.00E+00 ND<1	5.38E+08 7	4.38E+05 ND<1	8.91E+05 ND<1	3.30E+05 ND<1	1.31E+07 18	5.38E+05 ND<10
Carbon tetrachloride	7:13	1.85E+09	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
Benzene	7:31	9.81E+07	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
1,2-Dichloroethane	7:33	1.25E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
Trichloroethene	8:04	1.35E+09	3.37E+05 ND<1	0.00E+00 ND<1	2.56E+05 ND<1	0.00E+00 ND<1	2.48E+05 ND<1	0.00E+00 ND<1	7.15E+05 1	0.00E+00 ND<10
Toluene	9:59	1.06E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
1,1,2-Trichloroethane	10:11	1.53E+09	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
Tetrachloroethene	10:38	1.36E+09	5.58E+08 8	1.71E+08 3	2.57E+08 4	2.03E+08 3	8.22E+08 12	2.00E+08 3	1.20E+07 18	7.91E+05 12
1,1,1,2-Tetrachloroethane	11:64	1.50E+09	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
Ethylbenzene	11:84	1.01E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
meta and para-Xylene	11:80	2.80E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
ortho-Xylene	12:39	1.03E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
1,1,2,2-Tetrachloroethane	13:32	1.85E+09	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND

ND = not detected; analyte is below the reportable limit of quantitation for this sample  
 RT = retention time  
 ul = microliter  
 in. Hg = inches of mercury

Concentrations reported in micrograms per liter (ug/L)  
 ARF = average response factor  
 ml = milliliter

3/17/95

ANALYST : David M. Pride

REVIEWED BY : Ragl Abraham

**TABLE B-2**  
**QUALITY ASSURANCE/QUALITY CONTROL REPORT**  
**DAILY MID-POINT, BLANK ANALYSIS, AND LAST GC TEST RUN**  
**MARCH 17, 1995**

PID/ELCD #1  
FILE: 244AQCMP.WK

		DAILY MID-POINT			BLANK	LAST GC TEST RUN		
STANDARD CONC. (ug/L)		5000	AVERAGE		AMBIENT AIR	5000	AVERAGE	
INJECTION VOLUME(ul)		1.00	RESPONSE	PERCENT	500	1.00	RESPONSE	PERCENT
COMPOUND/WEIGHT(ug)	RT	0.00500	FACTOR	DIFFERENCE		0.00500	FACTOR	DIFFERENCE
Dichlorodifluoromethane	3:25	0			0.00E+00	0		
RF		0.00E+00	2.95E+08	NA	ND	0.00E+00	2.95E+08	NA
Vinyl chloride	3:59	0			0.00E+00	0		
RF		0.00E+00	1.11E+09	NA	ND	0.00E+00	1.11E+09	NA
Chloroethane	3:87	0			0.00E+00	0		
RF		0.00E+00	1.26E+09	NA	ND	0.00E+00	1.26E+09	NA
Trichlorofluoromethane	4:12	0			0.00E+00	0		
RF		0.00E+00	1.09E+09	NA	ND	0.00E+00	1.09E+09	NA
1,1,2-Trichloro-trifluoroethane	4:67	0			0.00E+00	0		
RF		0.00E+00	1.81E+09	NA	ND	0.00E+00	1.81E+09	NA
1,1-Dichloroethene	4:64	140096			0.00E+00	146199		
RF		2.80E+07	3.27E+07	-14	ND	2.92E+07	3.27E+07	-11
Methylene chloride	5:13	0			0.00E+00	0		
RF		0.00E+00	1.32E+09	NA	ND	0.00E+00	1.32E+09	NA
trans-1,2-Dichloroethene	5:40	6422211			0.00E+00	5815514		
RF		1.28E+09	1.13E+09	14	ND	1.16E+09	1.13E+09	3
1,1-Dichloroethane	5:81	6566880			0.00E+00	6801504		
RF		1.31E+09	1.22E+09	8	ND	1.36E+09	1.22E+09	12
Cis-1,2-Dichloroethene	6:38	6583402			0.00E+00	6552637		
RF		1.32E+09	1.20E+09	10	ND	1.31E+09	1.20E+09	9
Chloroform	6:68	0			0.00E+00	0		
RF		0.00E+00	1.61E+09	NA	ND	0.00E+00	1.61E+09	NA
1,1,1-Trichloroethane	6:94	8344067			0.00E+00	8239994		
RF		1.67E+09	1.47E+09	14	ND	1.65E+09	1.47E+09	12
Carbon tetrachloride	7:13	0			0.00E+00	0		
RF		0.00E+00	1.85E+09	NA	ND	0.00E+00	1.85E+09	NA
Benzene (PID)	7:31	480712			0.00E+00	474981		
RF		9.61E+07	9.81E+07	-2	ND	9.50E+07	9.81E+07	-3
1,2-Dichloroethane	7:33	6949360			0.00E+00	7192218		
RF		1.39E+09	1.25E+09	11	ND	1.44E+09	1.25E+09	15
Trichloroethene	8:04	7032666			0.00E+00	5901456		
RF		1.41E+09	1.35E+09	4	ND	1.18E+09	1.35E+09	-13
Toluene (PID)	9:59	464284			0.00E+00	553937		
RF		9.29E+07	1.06E+08	-12	ND	1.11E+08	1.06E+08	5
1,1,2-Trichloroethane	10:11	7659267			0.00E+00	7193715		
RF		1.53E+09	1.53E+09	0	ND	1.44E+09	1.53E+09	-6
Tetrachloroethene	10:38	7087245			0.00E+00	7915261		
RF		1.42E+09	1.36E+09	4	ND	1.58E+09	1.36E+09	16
1,1,1,2-Tetrachloroethane	11:64	0			0.00E+00	0		
RF		0.00E+00	1.50E+09	NA	ND	0.00E+00	1.50E+09	NA
Ethylbenzene (PID)	11:64	0			0.00E+00	0		
RF		0.00E+00	1.01E+08	NA	ND	0.00E+00	1.01E+08	NA
m,p-Xylene (PID)	11:80	1180485			0.00E+00	1377023		
RF		2.36E+08	2.60E+08	-9	ND	2.75E+08	2.60E+08	6
o-Xylene (PID)	12:39	471097			0.00E+00	559510		
RF		9.42E+07	1.03E+08	-9	ND	1.12E+08	1.03E+08	9
1,1,2,2-Tetrachloroethane	13:32	0			0.00E+00	0		
RF		0.00E+00	1.65E+09	NA	ND	0.00E+00	1.65E+09	NA

3/17/95

ANALYST: David M. Pride

REVIEWED BY: Ragl Abraham

**TABLE B-3  
RESPONSE FACTORS FOR THREE POINT CALIBRATION  
SUBJECT SITE, CALIFORNIA  
MARCH 7, 1995**

FILE: 03073PT.WKS

STANDARD CONC. (ug/L) INJECTION VOLUME(uL) COMPOUND/WEIGHT(ug)	RT	5000 0.50 0.0025	5000 1.00 0.0050	5000 2.00 0.0100	AVERAGE RESPONSE FACTOR	STANDARD DEVIATION	RELATIVE % STANDARD DEVIATION
Dichlorodifluoromethane CF	3:25	605068 2.42E+08	1476286 2.98E+08	3459829 3.46E+08	2.65E+08	5.20E+07	18
Vinyl chloride CF	3:59	2728510 1.09E+09	4362418 8.72E+08	1360852 1.36E+09	1.11E+09	2.45E+08	22
Chloroethane CF	3:87	3652266 1.46E+09	8233357 1.65E+09	6826227 6.83E+08	1.26E+09	5.11E+08	40
Trichlorofluoromethane CF	4:12	2605024 1.12E+09	5609434 1.18E+09	9645382 9.65E+08	1.09E+09	1.12E+08	10
1,1,2-Trichloro-trifluoroethane CF	4:87	3779378 1.51E+09	9155142 1.83E+09	20946224 2.09E+09	1.81E+09	2.92E+08	16
1,1-Dichloroethene CF	4:64	70496 2.82E+07	169263 3.39E+07	359773 3.60E+07	3.27E+07	4.02E+08	12
Methylene chloride CF	5:13	2778618 1.11E+09	6743659 1.35E+09	14905104 1.48E+09	1.32E+09	1.92E+08	15
trans-1,2-Dichloroethene CF	5:40	2327909 9.31E+08	5789194 1.15E+09	13138800 1.31E+09	1.13E+09	1.92E+08	17
1,1-Dichloroethane CF	5:81	2580736 1.03E+09	6067920 1.21E+09	14261072 1.43E+09	1.22E+09	1.97E+08	16
cis-1,2-Dichloroethene CF	6:38	2526778 1.01E+09	5981261 1.20E+09	13819104 1.38E+09	1.20E+09	1.66E+08	16
Chloroform CF	6:68	3460517 1.38E+09	8099782 1.61E+09	18370400 1.84E+09	1.61E+09	2.26E+08	14
1,1,1-Trichloroethane CF	6:94	3233050 1.29E+09	7274643 1.45E+09	16478440 1.65E+09	1.47E+09	1.78E+08	12
Carbon tetrachloride CF	7:13	3854957 1.54E+09	9247219 1.85E+09	21657760 2.17E+09	1.85E+09	3.12E+08	17
Benzene (PID) CF	7:31	218117 8.72E+07	508642 1.02E+08	1052672 1.05E+08	9.81E+07	9.55E+06	10
1,2-Dichloroethane CF	7:33	2721221 1.09E+09	6595459 1.31E+09	13501056 1.35E+09	1.25E+09	1.42E+08	11
Trichloroethene CF	8:04	2856600 1.14E+09	6788829 1.36E+09	15371248 1.54E+09	1.35E+09	1.98E+08	15
Toluene (PID) CF	9:59	272036 1.09E+08	555755 1.11E+08	974026 9.74E+07	1.06E+08	7.36E+06	7
1,1,2-Trichloroethane CF	10:11	3312373 1.32E+09	7676731 1.54E+09	17424528 1.74E+09	1.53E+09	2.09E+08	14
Tetrachloroethene CF	10:38	2908749 1.18E+09	7059344 1.41E+09	15160392 1.52E+09	1.36E+09	1.81E+08	13
1,1,1,2-Tetrachloroethane CF	11:64	3369798 1.35E+09	7593802 1.52E+09	18453600 1.65E+09	1.50E+09	1.50E+08	10
Ethylbenzene (PID) CF	11:64	213637 8.55E+07	540466 1.08E+08	1088511 1.09E+08	1.01E+08	1.33E+07	13
m,p-Xylene (PID) CF	11:80	620843 2.48E+08	1343043 2.69E+08	2634158 2.63E+08	2.60E+08	1.05E+07	4
o-Xylene (PID) CF	12:39	217668 8.71E+07	540780 1.08E+08	1125487 1.13E+08	1.03E+08	1.36E+07	13
1,1,2,2-Tetrachloroethane CF	13:32	3777117 1.51E+09	8011456 1.60E+09	18497472 1.85E+09	1.65E+09	1.75E+08	11

RT = Retention Time

CF = Calibration Factor

ug/L = Micrograms per Liter

uL = Microliter

ug = Microgram

3/7/95

Analyst: Regi Abraham

Reviewed by: David M. Pride

**TABLE B-4**  
**QUALITY ASSURANCE/QUALITY CONTROL REPORT**  
**LAB CONTROL SAMPLE, BLANK ANALYSIS, AND LAST GC TEST RUN**  
**MARCH 7, 1995**

PID/ELCD #1  
FILE 02230CLC.WK

		LAB CONTROL SAMPLE			BLANK	LAST GC TEST RUN		
STANDARD CONC. (ug/L)		5000	AVERAGE		AMBIENT AIR	5000	AVERAGE	
INJECTION VOLUME(ul)		1.00	RESPONSE	PERCENT	500	1.00	RESPONSE	PERCENT
COMPOUND/WEIGHT(ug)	RT	0.00500	FACTOR	DIFFERENCE		0.00500	FACTOR	DIFFERENCE
Dichlorodifluoromethane	3:25	1399779			0.00E+00	0		
RF		2.80E+08	2.95E+08	-5	ND	0.00E+00	2.95E+08	NA
Vinyl chloride	3:59	4695219			0.00E+00	0		
RF		9.39E+08	1.11E+09	-15	ND	0.00E+00	1.11E+09	NA
Chloroethane	3:87	5654771			0.00E+00	0		
RF		1.13E+09	1.26E+09	-10	ND	0.00E+00	1.26E+09	NA
Trichlorofluoromethane	4:12	5849658			0.00E+00	0		
RF		1.17E+09	1.09E+09	7	ND	0.00E+00	1.09E+09	NA
1,1,2-Trichloro-trifluoroethane	4:67	10334920			0.00E+00	0		
RF		2.07E+09	1.81E+09	14	ND	0.00E+00	1.81E+09	NA
1,1-Dichloroethene (PID)	4:64	166695			0.00E+00	0		
RF		3.33E+07	3.27E+07	2	ND	0.00E+00	3.27E+07	NA
Methylene chloride	5:13	7507869			0.00E+00	0		
RF		1.50E+09	1.32E+09	14	ND	0.00E+00	1.32E+09	NA
trans-1,2-Dichloroethene	5:40	5925139			0.00E+00	0		
RF		1.19E+09	1.13E+09	5	ND	0.00E+00	1.13E+09	NA
1,1-Dichloroethane	5:81	7014864			0.00E+00	0		
RF		1.40E+09	1.22E+09	15	ND	0.00E+00	1.22E+09	NA
Cis-1,2-Dichloroethene	6:38	6724355			0.00E+00	0		
RF		1.34E+09	1.20E+09	12	ND	0.00E+00	1.20E+09	NA
Chloroform	6:68	8861837			0.00E+00	0		
RF		1.77E+09	1.61E+09	10	ND	0.00E+00	1.61E+09	NA
1,1,1-Trichloroethane	6:94	8234368			0.00E+00	0		
RF		1.65E+09	1.47E+09	12	ND	0.00E+00	1.47E+09	NA
Carbon tetrachloride	7:13	9356275			0.00E+00	0		
RF		1.87E+09	1.85E+09	1	ND	0.00E+00	1.85E+09	NA
Benzene (PID)	7:31	514088			0.00E+00	0		
RF		1.03E+08	9.81E+07	5	ND	0.00E+00	9.81E+07	NA
1,2-Dichloroethane	7:33	6207936			0.00E+00	0		
RF		1.24E+09	1.25E+09	-1	ND	0.00E+00	1.25E+09	NA
Trichloroethene	8:04	6887917			0.00E+00	0		
RF		1.38E+09	1.35E+09	2	ND	0.00E+00	1.35E+09	NA
Toluene (PID)	9:59	531703			0.00E+00	0		
RF		1.06E+08	1.06E+08	0	ND	0.00E+00	1.06E+08	NA
1,1,2-Trichloroethane	10:11	7962355			0.00E+00	0		
RF		1.59E+09	1.53E+09	4	ND	0.00E+00	1.53E+09	NA
Tetrachloroethene	10:38	7202451			0.00E+00	0		
RF		1.44E+09	1.36E+09	6	ND	0.00E+00	1.36E+09	NA
1,1,1,2-Tetrachloroethane	11:64	6475619			0.00E+00	0		
RF		1.30E+09	1.50E+09	-14	ND	0.00E+00	1.50E+09	NA
Ethylbenzene (PID)	11:64	488901			0.00E+00	0		
RF		9.78E+07	1.01E+08	-3	ND	0.00E+00	1.01E+08	NA
m,p-Xylene (PID)	11:60	1244593			0.00E+00	0		
RF		2.49E+08	2.60E+08	-4	ND	0.00E+00	2.60E+08	NA
o-Xylene (PID)	12:39	489708			0.00E+00	0		
RF		9.79E+07	1.03E+08	-5	ND	0.00E+00	1.03E+08	NA
1,1,2,2-Tetrachloroethane	13:32	8805946			0.00E+00	0		
RF		1.76E+09	1.65E+09	7	ND	0.00E+00	1.65E+09	NA

3/7/95

ANALYST: Ragi Abraham

REVIEWED BY: David M. Pride

Table B-5  
Environmental Support Technologies, Inc.  
Detection Limits for Soil Gas Surveys

Detection Limits or Reportable Limits of Quantitation for Halogenated and Aromatic Hydrocarbons are 1 ug/L when the injection volume is 500 uL. For lesser injection volumes detection limits are listed below.

Injection Volume (uL)	Detection Limit (ug/L)
500	1.0
250	2.0
200	2.5
100	5.0
80	6.3
60	8.3
50	10.0
40	12.5
20	25.0
10	50.0
5	100.0
1	500.0



**Appendix C**

**LABORATORY RESULTS AND  
CHAIN OF CUSTODY DOCUMENTATION  
FOR TEDLAR<sup>TM</sup> BAG SAMPLE**



# ORANGE COAST ANALYTICAL, INC.

3002 Dow, Suite 532, Tustin, CA 92680

(714) 832-0064, Fax (714) 832-0067

Environmental Support Technologies  
ATTN: Mr. Kirk Thomson  
23011 Moulton Pkwy Suite E6  
Laguna Hills, CA 92653

Client Project ID: Former Sprayco  
Client Project #: 93-513

Sample Description: Air, NP1-100  
Laboratory Sample Number: 95030397  
Laboratory Reference #: EST 5571


Sampled: 03-17-95  
Received: 03-17-95  
Analyzed: 03-17-95  
Reported: 03-20-95

## Volatile Organics by GC/MS (EPA 8240)

ANALYTE	CAS NUMBER	DETECTION LIMIT (ppm)	SAMPLE RESULT (ppm)
Acetone	67-64-1	1.3	N.D.
Benzene	71-43-2	0.3	N.D.
Bromodichloromethane	75-27-4	0.3	N.D.
Bromoform	75-25-2	0.3	N.D.
Bromomethane	74-83-9	0.3	N.D.
2-Butanone	78-93-3	1.3	N.D.
Carbon Disulfide	75-15-0	1.3	N.D.
Carbon tetrachloride	56-23-5	0.3	N.D.
Chlorobenzene	108-90-7	0.3	N.D.
Chlorodibromomethane	124-48-1	0.3	N.D.
Chloroethane	75-00-3	0.3	N.D.
2-Chloroethyl vinyl ether	110-75-8	0.5	N.D.
Chloroform	67-66-3	0.3	N.D.
Chloromethane	74-87-3	0.3	N.D.
1,1-Dichloroethane	75-35-3	0.3	N.D.
1,2-Dichloroethane	107-06-2	0.3	N.D.
1,1-Dichloroethene	75-35-4	0.3	5.8 <---
Trans 1,2-Dichloroethene	156-60-5	0.3	N.D.
1,2-Dichloropropane	78-87-5	0.3	N.D.
cis-1,3-Dichloropropene	10061-01-5	0.3	N.D.
trans-1,3-Dichloropropene	10061-02-6	0.3	N.D.
Ethylbenzene	100-41-4	0.3	N.D.
2-Hexanone	591-78-6	0.5	N.D.
Methylene chloride	75-09-2	0.5	N.D.
4-Methyl-2-pentanone	108-10-1	1.3	N.D.
Styrene	100-42-5	0.3	N.D.
1,1,2,2-Tetrachloroethane	79-34-5	0.3	N.D.
Tetrachloroethene	127-18-4	0.3	6.2 <---
Toluene	108-88-3	0.3	N.D.
1,1,1-Trichloroethane	71-55-6	0.3	16 <---
1,1,2-Trichloroethane	79-00-5	0.3	N.D.
Trichloroethene	79-01-6	0.3	2.5 <---
Trichlorofluoromethane	75-69-4	1.3	N.D.
Vinyl acetate	108-05-4	1.3	N.D.
Vinyl chloride	75-01-4	0.3	N.D.
Total Xylenes	1330-20-7	0.3	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

ORANGE COAST ANALYTICAL

  
Mark Noorani  
Laboratory Director

18218 McDermott East, Suite G, Irvine, California 92714  
(714) 553-8757 • FAX (714) 261-8550

## CHAIN OF CUSTODY RECORD

Project Name Former Sprayco  
Project No. 93-513  
Location North Hollywood, CA  
Project Manager Phil Miller  
Sheet 1 of 1 Date 3/17/95

[illegible]

	Signature	Company	Date	Time
Collected by	<i>[Signature]</i>	Gearyston Cons.	3/17/95	3:10
Relinquished by	<i>[Signature]</i>	" "	"	
Received by	<i>[Signature]</i>	OCA	3-17-95	3:30 <i>[initials]</i>
Relinquished by				
Received by				
Relinquished by				
Received by				

**Appendix D**

**EST'S STANDARD METHODS AND PROCEDURES**

## ENVIRONMENTAL SUPPORT TECHNOLOGIES, INC.

### SOIL GAS SURVEYING METHODS AND PROCEDURES FOR NESTED SOIL GAS SAMPLING PROBES

Environmental Support Technologies, Inc. (EST) will perform soil gas surveys in accordance with Los Angeles Regional Water Quality Control Board (LARWQCB) "Requirements for Active Soil Gas Investigation" dated March 8, 1994. Some procedures may be modified based on evaluation of project needs. Modifications to these procedures, if necessary, will be approved prior to implementation and will be described in the soil gas survey report.

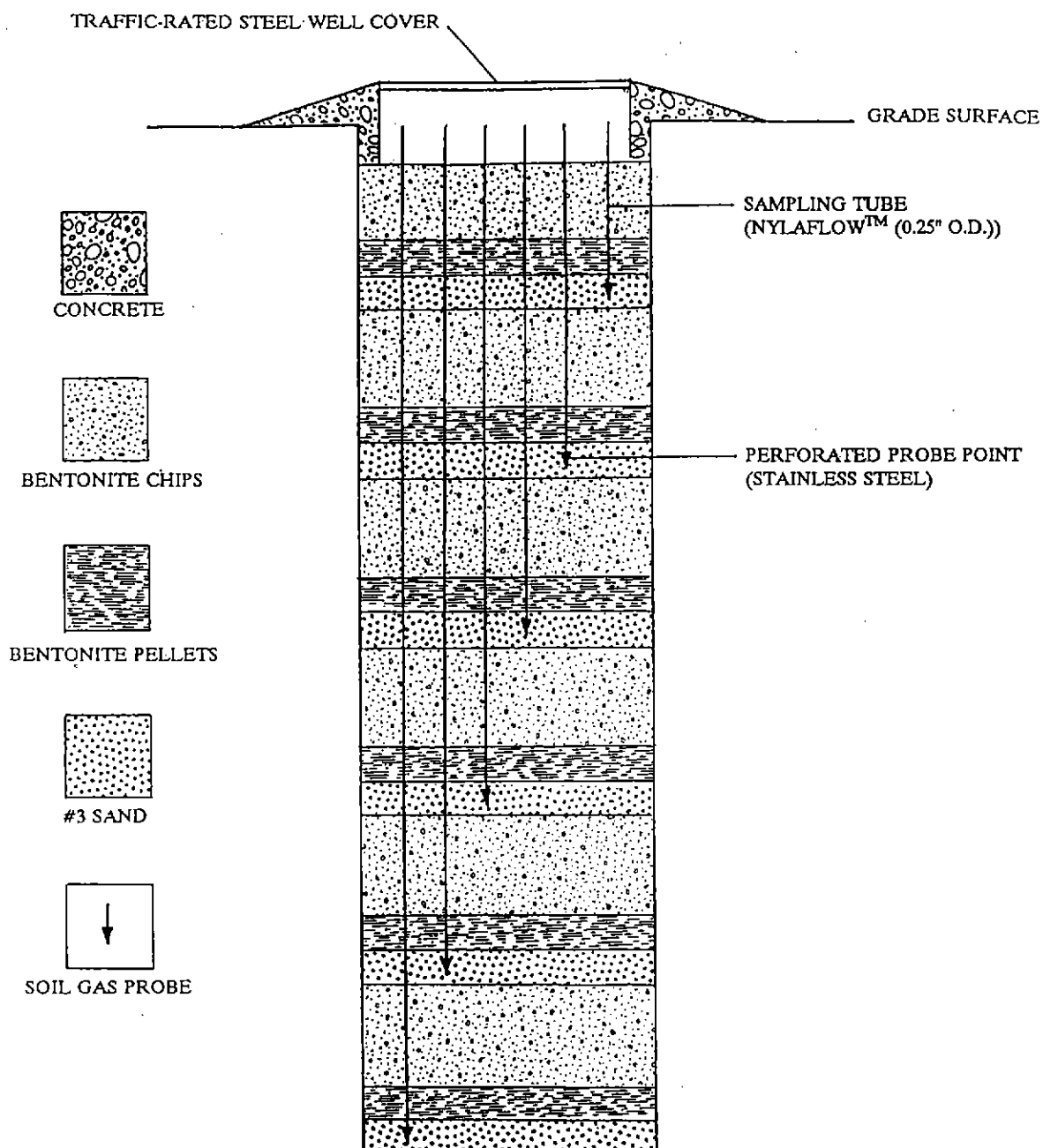
#### NESTED SOIL GAS PROBE INSTALLATION

Nested probes provide useful data for assessment of the vertical extent of potential soil contamination by VOCs at a particular point. Construction of a typical nested probe installation is shown in Figure 1. Details of typical nested probe construction are described below. Nested soil gas probes are typically installed at selected depths based on field screening of soil samples during drilling, or where a fine-grained lithology is encountered.

Upon drilling to total depth and completion of soil sampling, the soil boring will be converted to a nested probe installation. The borehole will typically be overdrilled by approximately one foot, and a total bore-hole depth measurement will be recorded. Depths below grade will be measured by sounding the borehole with a weighted engineer's tape graduated in 0.1-foot increments. The auger string will then be raised slightly and #3 Monterey sand will be poured down the hollow auger-stem until the boring has been backfilled approximately one foot, to the first depth of interest. A labeled and weighted soil gas probe will be lowered down the hollow auger-stem until the #3 sand-pack is encountered. The weighting of the distal end of the probe will ensure that the probe point remains in place during installation. Additional #3 Monterey sand will be added to the boring, burying the probe point and back-filling the boring to approximately one foot above the probe.

The two-foot-thick sand pack will allow for diffusion of soil gas into the sampling interval containing the probe point. In general, the sand pack should not exceed two feet in thickness. However, latest LARWQCB requirements for vertical profiling/nested probe soil gas surveys suggest that in deeper nested probe installations (greater than 100 feet below grade), the sand pack should extend approximately four feet above the probe point to allow for potential settling of the sand pack due to overburden pressure.

The sand pack interval will be capped with approximately 1.5-feet of bentonite pellets. Medium bentonite chips will then be used to back-fill the boring to about one foot below the next level of interest. The bentonite chips will then be hydrated and allowed to expand for about 15 minutes before introducing the next sand pack. The waiting period will allow the bentonite chips to hydrate, ensuring that potential downward migration of the sand pack material through the underlying bentonite materials will not occur.



VERTICAL SCALE:  
1-inch = 1-foot  
BOREHOLE DIAMETER EXAGGERATED FOR CLARITY

FIGURE 1  
CONSTRUCTION DETAIL OF A TYPICAL  
NESTED SOIL GAS PROBE INSTALLATION  
ENVIRONMENTAL SUPPORT TECHNOLOGIES, INC.  
SOIL GAS SURVEYING METHODS AND PROCEDURES

After the waiting period, another sand pack/probe interval will be constructed using the procedures described above. This procedure will be repeated until grade surface is reached and probe installation is complete. To complete the nested probe installation at grade, a heavy-duty, traffic-rated well cover will be fitted and cemented in place.

### SOIL GAS SAMPLE COLLECTION AND HANDLING

About one month following installation, per LARWQCB requirements, soil gas samples will be collected from each probe and will be analyzed on site for LARWQCB target analytes, including volatile halogenated and aromatic hydrocarbons. Soil gas samples will be collected from the nested probes using the soil gas sampling system as shown in Figure 2. The soil gas sampling system is constructed of stainless-steel, glass, Nylaflow<sup>TM</sup>, and Teflon<sup>TM</sup> components. Instrumentation associated with the sampling system includes a calibrated flow-meter and vacuum gage. Vacuum integrity of the sampling system will be tested prior to, and after the soil gas survey using leak-down testing methods.

Nested soil gas sampling probes will be purged at a flowrate of approximately 100 milliliters per minute (mL/min). Site-specific probe purging and sample volume calibrations will be initially performed to evaluate the appropriate volume of gas to be purged from each probe prior to sample collection. This will be done by performing time-series sampling of at least one probe to evaluate trends in soil gas concentrations as a function of purge volume. If soil lithologies are consistent, a single determination will be adequate.

After probe purging, soil gas samples will be withdrawn from the moving sample stream using a glass syringe fitted with a disposable needle and Mininert<sup>TM</sup> gas-tight valve. Soil gas samples will be analyzed by direct gas injection into a laboratory-grade, field-operable gas chromatograph (GC).

### SOIL GAS SAMPLE ANALYSES

Soil gas samples collected from nested probes will be analyzed in the field using a field-operable GC equipped with a photo-ionization detector (PID) and an electrolytic conductivity detector (ELCD). The PID and ELCD will be configured in-series to analyze for EPA Method 8010/8020 target compounds as specified in the LARWQCB requirements (March 8, 1994) including halogenated and aromatic hydrocarbons.

Detection limits for the LARWQCB target compounds will be no more than one microgram per liter ( $\mu\text{g/L}$ ) of gas except when compound concentration exceeds the initial calibration range. Soil gas samples may be analyzed for other constituents on a site-specific basis. Other common analyses methods include total volatile hydrocarbons (TVHs) as gasoline, mineral spirits, or jet fuel, and selected ketones. A series of quality assurance/quality control (QA/QC) analyses will be performed prior to, during, and following the analysis of soil gas samples. A summary of these QA/QC analyses is shown in Table 1, and each analysis described below.

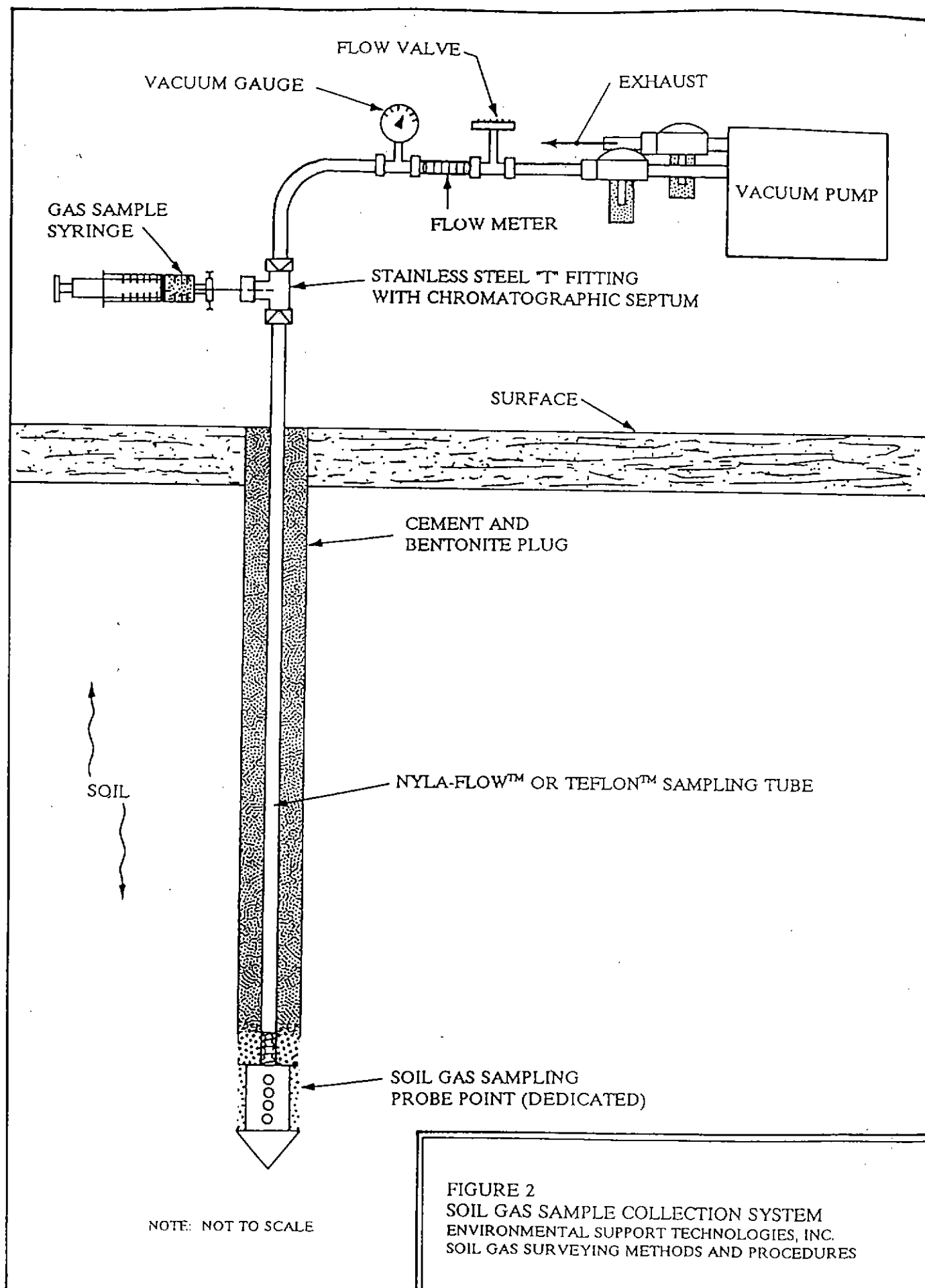


FIGURE 2  
SOIL GAS SAMPLE COLLECTION SYSTEM  
ENVIRONMENTAL SUPPORT TECHNOLOGIES, INC.  
SOIL GAS SURVEYING METHODS AND PROCEDURES



TABLE 1  
SUMMARY OF  
QUALITY ASSURANCE/QUALITY CONTROL ANALYSES  
FOR SOIL GAS SURVEYS

CALIBRATION AND LABORATORY CONTROL SAMPLES		
DESCRIPTION	FREQUENCY	PRECISION GOAL %RSD or %DIFF
INITIAL THREE-POINT CALIBRATION (25 Target Compounds)	At the beginning of the soil gas survey, unless the RPDs of the initial laboratory check sample or daily mid-point calibration check samples exceed their goals.	20-30 (1)
INITIAL LABORATORY CONTROL SAMPLE (LCS) (25 Target Compounds)	At the beginning of the survey, following the initial three-point calibration.	15 (2)
DAILY MID-POINT CALIBRATION CHECK (12 Target Compounds)	At the beginning of each day.	15 (3) 25 (3)
LAST GC TEST RUN (12 Target Compounds)	At the end of each day.	20 (4)
FIELD CONTROL SAMPLES		
DESCRIPTION	FREQUENCY	PRECISION GOAL
BACKGROUND SAMPLE (5)	Minimum one per day.	N/A
SYRINGE BLANK (5)	Minimum one per day.	N/A

%RSD = Percent Relative Standard Deviation calculated based on the initial three-point calibration.

%DIFF = Percent Difference between the response factor obtained from the LCS, the daily mid-point calibration, or the last GC test run and the average response factor initially calculated based on the three-point calibration.

N/A = Not applicable.

(1) The %RSD goal for the initial three-point calibration will be 20 percent for all compounds except for Freon 11, Freon 12, Freon 113, chloroethane, and vinyl chloride for which the %RSD goal is 30 percent.

(2) The %DIFF goal for the LCS will be 15 percent for all target compounds.

(3) The %DIFF goal for the daily mid-point calibration check will be 15 percent for all compounds except for Freon 11, Freon 12, Freon 113, chloroethane, and vinyl chloride for which the %DIFF goal is 25 percent.

(4) The %DIFF goal for the last GC test run will be 20 percent for all compounds except for Freon 11, Freon 12, Freon 113, chloroethane, and vinyl chloride for which the %DIFF goal is 30 percent.

(5) A syringe/background sample will be analyzed using ambient air. If volatile organic compounds (VOCs) are not detected, the ambient air sample will represent the background sample and syringe blank. If VOCs are detected in the ambient air sample, a syringe blank will be analyzed using ultra-high-purity helium or nitrogen gas.

## INITIAL MULTI-POINT EQUIPMENT CALIBRATION

The GC used for soil gas analyses will be calibrated using high-purity solvent-based standards obtained from certified vendors or using gas standards prepared in the field (for TVHs). Standards are typically prepared in high-purity methanol or dodecane solvent. Calibration using solvent-based standards will typically be performed using varying injection volumes of the stock solvent-based standard without dilution. If necessary, stock solvent-based standards will be diluted to an appropriate concentration. Diluted standards will be prepared by introducing a known volume of stock solvent-based standard into a known volume of high-purity solvent.

Initial GC calibration will be performed for EPA Method 8010/8020 compounds. The GC will be calibrated using three standard injections to establish a three-point calibration curve. The lowest standard will not be higher than five times the method detection limit (or 5  $\mu\text{g/L}$ ). The percent relative standard deviation (%RSD) of the response factor (RF) for each target compound will not exceed 20 percent except for trichlorofluoromethane (Freon<sup>TM</sup>-11), dichlorodifluoro-methane (Freon<sup>TM</sup>-12), trichlorotrifluoromethane (Freon<sup>TM</sup>-113), chloroethane, and vinyl chloride which will not exceed 30 %RSD. Identification and quantitation of compounds in the field will be based on calibration under the same analytical conditions as for three-point calibration.

## LABORATORY CONTROL SAMPLE (LCS)

A laboratory control sample (LCS) from a source other than the initial calibration standard will be used to verify the true concentration of the initial calibration standard. The LCS will include the LARWQCB target compounds and the RF for each compound will be within +/- 15 percent difference from the initial calibration.

## DAILY MID-POINT CALIBRATION CHECK

Daily field calibration of the GC will consist of a mid-point calibration analyses using the same standard as used for the initial multi-point calibration. The daily mid-point calibration check will include the 12 target compounds as specified in the previously referenced LARWQCB requirements. The RF of each compound (except for Freons<sup>TM</sup>-11, -12, and -113, chloroethane, and vinyl chloride) will be within 15 percent difference of the average RF from the initial calibration. The RF for the Freons<sup>TM</sup>-11, -12, and -113, chloroethane, and vinyl chloride will be within 25 percent difference of the initial calibration. If these criteria are not met, the GC will be re-calibrated. Daily calibration will be performed prior to the first sample analysis of the day. One-point calibration will be performed for all compounds detected at a particular site to ensure accurate quantitation. Subsequent calibration episodes, if deemed necessary, will consist of at least one injection of the standard exhibiting a similar detector response as that of samples encountered in the field.

### BLANK INJECTIONS

The syringes used for soil gas sample collection will be filled with ambient air or high-purity carrier-grade gas from a compressed gas cylinder. The ambient air or high-purity gas will be injected directly into the GC. The blank injection will serve to detect contamination of the syringe to be used for sampling and verify the effectiveness of equipment decontamination procedures.

### END OF DAY GC TEST RUN

A LCS will be analyzed at the end of each day. The LCS will contain the same compounds as the daily mid-point calibration standard (minimum 12 compounds). The LCS must be from a second source independent from the initial multi-point calibration standard. The RF for each compound will be within 20 percent difference of the average RF for the initial calibration. If this criteria is not met, additional LCS will be analyzed to satisfy this criteria.

### DECONTAMINATION PROCEDURES

Sampling equipment in contact with the soil gas sample stream will be decontaminated prior to initiation of sampling and prior to collection of each soil gas sample. Decontamination of soil gas sampling equipment will be conducted by baking in the gas chromatograph oven at approximately 160° Celsius.

### SHORTENING THE GC RUN TIME

Shortening the GC run time is acceptable only if the chemist feels that doing so will not sacrifice the quality of data obtained and doing so meets the approval of appropriate client and agency personnel.

### COMPOUND CONFIRMATION SAMPLE

As a means of compound confirmation, EST will collect one soil gas sample from a selected probe in a Tedlar<sup>TM</sup> bag for off-site analysis by a certified laboratory using gas chromatography/mass spectrometric (GC/MS) methods.

### REPORTING OF SAMPLE RESULTS AND QA/QC INFORMATION

Reporting of sample results and QA/QC information will be performed in accordance with the Los Angeles Regional Water Quality Control Board's "QA/QC and Reporting Requirement for Soil Gas Investigation" dated March 8, 1994.

### VAPOR MONITORING EVENTS

Latest LARWQCB requirements for vertical profiling/nested probe soil gas surveys require a minimum of three vapor monitoring events to evaluate the consistency of the data.

BACKGROUND MEMO

Facility: Sprayco  
Subject: Vapor well results  
Date: August 1, 1995  
File Number: 111.1004  
From: JFL

Sprayco was requested in a letter dated xx/xx/xx, to install and sample a nested vapor monitoring well. A summary of the results is attached. The results indicate that during the first month of sampling, VOCs were not detected above the detection at ten of the depths sampled. During the next sampling episode VOCs were detected at nine of these depths. Therefore, at least two more sampling episodes are required to determine whether the NDs obtained were indicative of the true concentration in the subsurface at this facility.

**APPENDIX D**

**SOIL GAS SAMPLING AND ANALYSIS  
APRIL 20, 1995**

Should you have any questions or comments, please contact me at (714) 457-9664.

Sincerely,

Environmental Support Technologies, Inc.

*K.A. Thomson*

Kirk A. Thomson, R.G., R.E.A.  
Project Manager/Principal Hydrogeologist

cc: EST Project File



RECEIVED

MAY 24 1995

GTOS  
INSU

May 23, 1995

EST 1244

Mr. Phil Miller  
Geosystem Consultants  
18218 McDermott East, Suite G  
Irvine, California 92714

Subject: Nested Soil Gas Probe Sampling and Analyses (Second Episode)  
Former Sprayco Site  
12600 Saticoy Street South, North Hollywood, California

Dear Mr. Miller:

Environmental Support Technologies, Inc. (EST) is pleased to submit field analyses results for soil gas samples collected from nested probes (second episode) at the former Sprayco site located at 12600 Saticoy Street South in North Hollywood, California.

Results of the soil gas sample analyses performed on April 20, 1995 are summarized in Table 1. Some factors that affect the distribution of volatile organic compounds (VOCs) in the subsurface are listed in Appendix A. Field soil gas analyses reports, quality assurance/quality control data, calibration data, and an explanation of method detection limits for soil gas samples are included in Appendix B.

Soil gas samples were analyzed on-site using a gas chromatograph (GC) equipped with a photo-ionization detector (PID) and an electrolytic conductivity detector (ELCD) placed in series. The GC configuration used a megabore capillary column to allow resolution and quantitation of EPA Method 8010/8020 compounds, including halogenated and aromatic hydrocarbons. Soil gas sample collection and analysis were performed in accordance with Los Angeles Regional Water Quality Control Board (LARWQCB) protocols dated March 8, 1994. Details of EST's standard methods and procedures for sampling and analyses of soil gas samples collected from nested soil gas probes are provided in Appendix C.

TABLE 1

**SUMMARY OF FIELD ANALYSES RESULTS FOR SOIL GAS SAMPLES  
COLLECTED FROM NESTED SOIL GAS SAMPLING PROBES**

**FORMER SPRAYCO SITE  
12600 SATICOY STREET SOUTH, NORTH HOLLYWOOD, CALIFORNIA**

PROBE NUMBER	PROBE DEPTH (ft.)	SAMPLING DATE	SAMPLING EVENTS	DCE (ug/L)	TCA (ug/L)	TCE (ug/L)	PCE (ug/L)
NP1-20	20	03/17/95	1	3	18	1	18
		04/20/95	2	ND<5	ND<5	ND<5	47
NP1-40	40	03/17/95	2	ND<1	ND<1	ND<1	12
		04/20/95	1	8	24	13	143
NP1-50	50	03/17/95	NS	NS	NS	NS	NS
		04/20/95	3	ND<1	ND<1	ND<1	55
NP1-60	60	03/17/95	1	ND<1	ND<1	ND<1	12
		04/20/95	1	ND<2.5	21	8	90
NP1-80	80	03/17/95	1	ND<1	ND<1	ND<1	3
		04/20/95	1	2	18	11	49
NP1-100	100	03/17/95	3	2	7	ND<1	8
		04/20/95	3	8	34	47	80

(ft.) = Probe depth in feet below grade

(ug/L) = micrograms per liter

DCE = 1,1-dichloroethene

TCA = 1,1,1-trichloroethane

TCE = trichloroethene

PCE = tetrachloroethene

ND = not detected above stated detection limit

NS = not sampled

Concentrations reported are the highest detected in each probe



## APPENDICES

## Appendix A

### FACTORS AFFECTING THE GAS-PHASE DISTRIBUTION OF VOCs IN THE SUBSURFACE

Soil and groundwater contamination by volatile organic compounds (VOCs) can often be detected by analyzing trace gases in soil just below ground surface. This technique is possible because many VOCs will volatilize and move by molecular diffusion away from source areas toward regions of lower concentrations. A gas phase concentration gradient from the source to adjacent areas is established.

The following factors affect the transport and gas phase distribution of VOCs in the subsurface.

1. The liquid-gas partitioning coefficient of the compounds of interest (the "volatility" of the compound).
2. The vapor diffusivity, which is a measure of how quickly an individual compound "spreads out" within a volume of gas.
3. Retardation of the individual compounds as they migrate in the soil gas. Retardation may be due to degradation, adsorption on the soil matrix, tortuosity of the soil profile, or entrapment in unconnected pores.
4. The presence of impeding layers, wetting fronts of freshwater, or perched water tables, between the regional water table and ground surface.
5. The presence of soil moisture around man-made structures such as clarifiers and sumps may suppress volatilization and diffusion of VOCs resulting in false negative or low soil gas concentrations.
6. The presence of contaminants from localized spills or in the ambient air.
7. Movement of soil gas in response to barometric pressure changes.
8. The preferential migration of gas through zones of greater permeability (e.g. natural lithologic variation or back-fill of underground utilities).

At most sites, many of these factors are unknown or poorly understood. Because of this uncertainty, soil gas sampling should be used in conjunction with other site-specific data.

**Appendix B**

**FIELD ANALYSES RESULTS FOR  
HALOGENATED AND AROMATIC HYDROCARBONS**

**(INCLUDING CALIBRATION REPORTS, QUALITY CONTROL REPORTS,  
AND EXPLANATION OF METHOD DETECTION LIMITS)**

**TABLE B-1**  
**HALOGENATED AND AROMATIC HYDROCARBONS**  
**FIELD ANALYSES RESULTS FOR SOIL GAS SAMPLES**  
**12600 SATICOY STREET SOUTH, NORTH HOLLYWOOD, CALIFORNIA**  
**25-TARGET COMPOUND LIST**

PID/ELCD #2 - 4/20/95  
FILE: 244BSGRF.WG3

SAMPLE ID			NP1-100	NP1-100	NP1-100	NP1-80	NP1-80	NP1-40	NP1-20	NP1-20
DATE			4/20/95	4/20/95	4/20/95	4/20/95	4/20/95	4/20/95	4/20/95	4/20/95
TIME			10:31	10:50	11:01	11:19	11:38	11:54	12:11	12:25
INJECTION VOLUME (ul)			500	100	100	250	200	100	50	100
PURGE VOLUME (ml)			1500	1500	1500	1200	900	600	300	300
VACUUM (in. Hg)			ND	ND	ND	ND	ND	ND	ND	ND
DILUTION FACTOR			1.0	5.0	5.0	2.0	2.5	5.0	10.0	5.0
COMMENTS	RT		ARF		SYRINGE LEAK					
Dichlorodifluoromethane	2:69	1.15E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
Vinyl chloride	3:02	3.69E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
Chloroethane	3:31	1.19E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
Trichlorofluoromethane	3:50	4.01E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
1,1,2-Trichloro-trifluoroethane	4:15	9.15E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
1,1-Dichloroethene	4:16	2.13E+07	6.96E+04 7	5.38E+03 ND<5	1.74E+04 8	1.32E+04 2	5.87E+03 ND<2.5	1.64E+04 8	0.00E+00 ND<10	0.00E+00 ND<5
Methylene chloride	4:88	7.52E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
trans-1,2-Dichloroethene	4:96	7.06E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
1,1-Dichloroethane	5:41	6.87E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
cis-1,2-Dichloroethane	6:04	8.03E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
Chloroform	6:38	9.02E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
1,1,1-Trichloroethane	8:55	9.02E+08	1.17E+07 26	1.04E+08 12	3.04E+08 34	4.11E+08 18	3.72E+08 21	2.14E+08 24	0.00E+00 ND<10	2.70E+05 ND<5
Carbon tetrachloride	8:88	1.05E+09	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
Benzene	7:09	6.54E+07	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
1,2-Dichloroethane	7:09	8.40E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
Trichloroethene	7:87	8.29E+08	1.71E+07 41	1.37E+08 18	3.88E+08 47	2.33E+08 11	1.37E+08 8	1.05E+08 13	0.00E+00 ND<10	0.00E+00 ND<5
Toluene	9:52	5.82E+07	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
1,1,2-Trichloroethane	10:18	7.30E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
Tetrachloroethene	10:45	9.40E+08	2.28E+07 48	2.13E+08 23	7.48E+08 80	1.16E+07 49	1.89E+07 90	1.34E+07 143	2.15E+08 48	4.38E+08 47
1,1,1,2-Tetrachloroethane	11:88	8.24E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
Ethylbenzene	11:93	4.88E+07	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
meta and para-Xylene	12:11	1.27E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
ortho-Xylene	12:78	4.78E+07	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
1,1,2,2-Tetrachloroethane	13:85	8.79E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND

ND = not detected; analyte is below the reportable limit of quantitation for this sample  
RT = retention time  
ul = microliter  
in. Hg = inches of mercury

Concentrations reported in micrograms per liter (ug/L)  
ARF = average response factor  
ml = milliliter

4/20/95

ANALYST : David M. Pride

REVIEWED BY : Raeli Abraham

**TABLE B-1**  
**HALOGENATED AND AROMATIC HYDROCARBONS**  
**FIELD ANALYSES RESULTS FOR SOIL GAS SAMPLES**  
**3846 NORTH PECK ROAD, SOUTH EL MONTE, CALIFORNIA**  
**25-TARGET COMPOUND LIST**

PID/ELCD #2 - 4/20/95  
FILE: 244BSGRP.WK3

SAMPLE ID			NP1-50	NP1-50	NP1-50	NA	NA	NA	NA	NA
DATE			4/20/95	4/20/95	4/20/95	NA	NA	NA	NA	NA
TIME			13:51	14:06	14:20	NA	NA	NA	NA	NA
INJECTION VOLUME (ul)			500	200	200	NA	NA	NA	NA	NA
PURGE VOLUME (ml)			800	1200	1800	NA	NA	NA	NA	NA
VACUUM (In. Hg)			ND	ND	ND	NA	NA	NA	NA	NA
DILUTION FACTOR			1.0	2.5	2.5	NA	NA	NA	NA	NA
COMMENTS										
	RT	ARF								
Dichlorodifluoromethane	2:69	1.15E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
Vinyl chloride	3:02	3.69E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
Chloroethane	3:31	1.19E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
Trichlorofluoromethane	3:50	4.01E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
1,1,2-Trichloro-trifluoroethane	4:15	9.15E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
1,1-Dichloroethene	4:16	2.13E+07	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
Methylene chloride	4:66	7.52E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
trans-1,2-Dichloroethene	4:96	7.08E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
1,1-Dichloroethane	5:41	6.87E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
cis-1,2-Dichloroethene	6:04	8.03E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
Chloroform	6:36	9.02E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
1,1,1-Trichloroethane	6:65	9.02E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
Carbon tetrachloride	6:86	1.05E+09	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
Benzene	7:09	6.54E+07	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
1,2-Dichloroethane	7:09	8.40E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
Trichloroethene	7:87	6.29E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
Toluene	9:62	5.82E+07	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
1,1,2-Trichloroethane	10:16	7.30E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
Tetrachloroethene	10:45	9.40E+08	1.53E+07 33	5.29E+08 28	1.04E+07 55	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
1,1,1,2-Tetrachloroethane	11:88	8.24E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
Ethylbenzene	11:93	4.88E+07	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
meta and para-Xylene	12:11	1.27E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
ortho-Xylene	12:76	4.76E+07	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND
1,1,2,2-Tetrachloroethane	13:85	6.79E+08	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND	0.00E+00 ND

ND = not detected; analyte is below the reportable limit of quantitation for this sample  
RT = retention time  
ul = microliter  
In. Hg = inches of mercury

Concentrations reported in micrograms per liter (ug/L)  
ARF = average response factor  
ml = milliliter

4/20/95

ANALYST : David M. Pride

REVIEWED BY : Rael Abraham

**TABLE B-2**  
**QUALITY ASSURANCE/QUALITY CONTROL REPORT**  
**DAILY MID-POINT, BLANK ANALYSIS, AND LAST GC TEST RUN**  
**APRIL 20, 1995**

PID/ELCD #2  
FILE: 244BQCMP.WK

		DAILY MID-POINT			BLANK	LAST GC TEST RUN		
STANDARD CONC. (ug/L)		5000	AVERAGE		AMBIENT AIR	5000	AVERAGE	
INJECTION VOLUME(ul)		1.00	RESPONSE	PERCENT	500	1.00	RESPONSE	PERCENT
COMPOUND/WEIGHT(ug)	RT	0.00500	FACTOR	DIFFERENCE		0.00500	FACTOR	DIFFERENCE
Dichlorodifluoromethane	2:69	0			0.00E+00	0		
RF		0.00E+00	1.15E+08	NA	ND	0.00E+00	1.15E+08	NA
Vinyl chloride	3:02	0			0.00E+00	0		
RF		0.00E+00	3.69E+08	NA	ND	0.00E+00	3.69E+08	NA
Chloroethane	3:31	0			0.00E+00	0		
RF		0.00E+00	1.19E+08	NA	ND	0.00E+00	1.19E+08	NA
Trichlorofluoromethane	3:50	0			0.00E+00	0		
RF		0.00E+00	4.01E+08	NA	ND	0.00E+00	4.01E+08	NA
1,1,2-Trichloro-trifluoroethane	4:15	0			0.00E+00	0		
RF		0.00E+00	9.15E+08	NA	ND	0.00E+00	9.15E+08	NA
1,1-Dichloroethene (PID)	4:16	90467			0.00E+00	85431		
RF		1.81E+07	2.13E+07	-15	ND	1.71E+07	2.13E+07	-20
Methylene chloride	4:66	0			0.00E+00	0		
RF		0.00E+00	7.52E+08	NA	ND	0.00E+00	7.52E+08	NA
trans-1,2-Dichloroethene	4:96	3234960			0.00E+00	2898698		
RF		6.47E+08	7.06E+08	-8	ND	5.80E+08	7.06E+08	-18
1,1-Dichloroethane	5:41	3579341			0.00E+00	3431667		
RF		7.16E+08	6.67E+08	7	ND	6.86E+08	6.67E+08	3
Cis-1,2-Dichloroethene	6:04	3533793			0.00E+00	4260268		
RF		7.07E+08	8.03E+08	-12	ND	8.52E+08	8.03E+08	6
Chloroform	6:38	0			0.00E+00	0		
RF		0.00E+00	9.02E+08	NA	ND	0.00E+00	9.02E+08	NA
1,1,1-Trichloroethane	6:65	5141639			0.00E+00	5363465		
RF		1.03E+09	9.02E+08	14	ND	1.07E+09	9.02E+08	19
Carbon tetrachloride	6:86	0			0.00E+00	0		
RF		0.00E+00	1.05E+09	NA	ND	0.00E+00	1.05E+09	NA
Benzene (PID)	7:09	295311			0.00E+00	367249		
RF		5.91E+07	6.54E+07	-10	ND	7.34E+07	6.54E+07	12
1,2-Dichloroethane	7:09	4100512			0.00E+00	3980041		
RF		8.20E+08	8.40E+08	-2	ND	7.92E+08	8.40E+08	-6
Trichloroethene	7:87	4377538			0.00E+00	4366096		
RF		8.76E+08	8.29E+08	6	ND	8.73E+08	8.29E+08	5
Toluene (PID)	8:62	274554			0.00E+00	337937		
RF		5.49E+07	5.82E+07	-6	ND	6.76E+07	5.82E+07	16
1,1,2-Trichloroethane	10:16	3230879			0.00E+00	3674579		
RF		6.46E+08	7.30E+08	-11	ND	7.35E+08	7.30E+08	1
Tetrachloroethene	10:45	4759372			0.00E+00	5495173		
RF		9.52E+08	9.40E+08	1	ND	1.10E+09	9.40E+08	17
1,1,1,2-Tetrachloroethane	11:88	0			0.00E+00	0		
RF		0.00E+00	8.24E+08	NA	ND	0.00E+00	8.24E+08	NA
Ethylbenzene (PID)	11:93	0			0.00E+00	0		
RF		0.00E+00	4.88E+07	NA	ND	0.00E+00	4.88E+07	NA
m,p-Xylene (PID)	12:11	537527			0.00E+00	667329		
RF		1.08E+08	1.27E+08	-15	ND	1.33E+08	1.27E+08	5
o-Xylene (PID)	12:78	215372			0.00E+00	263389		
RF		4.31E+07	4.76E+07	-10	ND	5.27E+07	4.76E+07	11
1,1,2,2-Tetrachloroethane	13:85	0			0.00E+00	0		
RF		0.00E+00	6.79E+08	NA	ND	0.00E+00	6.79E+08	NA

4/20/95

ANALYST: David M. Pride

REVIEWED BY: Ragi Abraham

**TABLE B-3**  
**RESPONSE FACTORS FOR THREE POINT CALIBRATION**  
**SUBJECT SITE, CALIFORNIA**  
**APRIL 4, 1995**

PID/ECD #1  
FILE: 04043PT.WK3

STANDARD CONC. (ug/L) INJECTION VOLUME(uL) COMPOUND/WEIGHT(ug)	RT	5000 0.50 0.0025	5000 1.00 0.0050	5000 2.00 0.0100	AVERAGE RESPONSE FACTOR	STANDARD DEVIATION	RELATIVE % STANDARD DEVIATION
Dichlorodifluoromethane CF	2:88	127751 5.11E +07	321661 6.43E +07	678242 6.78E +07	8.11E +07	8.82E +08	14
Vinyl chloride CF	3:20	583393 2.25E +08	1427054 2.85E +08	3015904 3.02E +08	2.71E +08	4.02E +07	15
Chloroethane CF	3:52	375972 1.50E +08	1400465 2.80E +08	2549464 2.55E +08	2.28E +08	6.88E +07	30
Trichlorofluoromethane CF	3:73	556515 2.23E +08	1507280 3.01E +08	2728848 2.73E +08	2.66E +08	3.99E +07	15
1,1,2-Trichloro-trifluoroethane CF	4:34	889745 3.58E +08	2159890 4.32E +08	4321142 4.32E +08	4.07E +08	4.40E +07	11
1,1-Dichloroethene (PID) CF	4:32	76739 3.15E +07	158919 3.14E +07	314788 3.15E +07	3.15E +07	6.05E +04	0
Methylene chloride CF	4:85	986419 3.87E +08	2192088 4.38E +08	4331149 4.33E +08	4.19E +08	2.85E +07	7
trans-1,2-Dichloroethene CF	5:14	863164 3.45E +08	1971748 3.94E +08	4056722 4.08E +08	3.82E +08	3.21E +07	8
1,1-Dichloroethane CF	5:58	749115 3.00E +08	1854338 3.31E +08	3213785 3.21E +08	3.17E +08	1.80E +07	5
cis-1,2-Dichloroethene CF	6:20	932182 3.73E +08	1958478 3.92E +08	3718122 3.72E +08	3.79E +08	1.12E +07	3
Chloroform CF	6:54	989251 3.88E +08	2043148 4.09E +08	3472941 3.47E +08	3.81E +08	3.12E +07	8
1,1,1-Trichloroethane CF	6:80	850581 3.40E +08	1831993 3.66E +08	3084238 3.08E +08	3.38E +08	2.90E +07	9
Carbon tetrachloride CF	7:00	983882 3.94E +08	2228822 4.45E +08	4558827 4.58E +08	4.32E +08	3.34E +07	8
Benzene (PID) CF	7:21	198889 7.95E +07	447312 8.95E +07	875395 8.75E +07	8.55E +07	5.30E +06	6
1,2-Dichloroethane CF	7:23	810803 3.24E +08	1708808 3.41E +08	2663411 2.66E +08	3.11E +08	3.93E +07	13
Trichloroethene CF	8:00	885942 3.54E +08	1910941 3.82E +08	3533600 3.53E +08	3.83E +08	1.64E +07	5
Toluene (PID) CF	9:68	237351 9.49E +07	478101 9.52E +07	843953 8.44E +07	9.15E +07	6.17E +06	7
1,1,2-Trichloroethane CF	10:24	892387 3.57E +08	1984872 3.97E +08	4158344 4.18E +08	3.90E +08	3.01E +07	8
Tetrachloroethene CF	10:50	954717 3.82E +08	2058853 4.11E +08	3786142 3.79E +08	3.91E +08	1.80E +07	5
1,1,1,2-Tetrachloroethane CF	11:84	942159 3.77E +08	2098589 4.19E +08	4470547 4.47E +08	4.14E +08	3.54E +07	9
Ethylbenzene (PID) CF	11:85	190783 7.63E +07	451147 9.02E +07	996249 9.96E +07	8.87E +07	1.17E +07	13
m,p-Xylene (PID) CF	12:01	555832 2.22E +08	1128485 2.28E +08	2470402 2.47E +08	2.32E +08	1.34E +07	6
o-Xylene (PID) CF	12:82	197434 7.80E +07	458314 9.17E +07	1021140 1.02E +08	9.09E +07	1.16E +07	13
1,1,2,2-Tetrachloroethane CF	13:59	884927 3.54E +08	2002927 4.01E +08	4298894 4.30E +08	3.85E +08	3.83E +07	10

RT = Retention Time

CF = Calibration Factor

ug/L = Micrograms per Liter

uL = Microliter

ug = Microgram

4/4/95

Analyst: Regl Abraham

Reviewed by: David M. Pride

**TABLE B-4**  
**QUALITY ASSURANCE/QUALITY CONTROL REPORT**  
**LAB CONTROL SAMPLE, BLANK ANALYSIS, AND LAST GC TEST RUN**  
**APRIL 4, 1995**

PID/ELCD #1  
FILE: 0404QCIC.WK

		LAB CONTROL SAMPLE			BLANK	LAST GC TEST RUN		
STANDARD CONC. (ug/L)		5000	AVERAGE		AMBIENT AIR	5000	AVERAGE	
INJECTION VOLUME(uL)		1.00	RESPONSE	PERCENT	500	1.00	RESPONSE	PERCENT
COMPOUND/WEIGHT(ug)	RT	0.00500	FACTOR	DIFFERENCE		0.00500	FACTOR	DIFFERENCE
Dichlorodifluoromethane	2:86	272628			0.00E+00	0		
RF		5.45E+07	6.11E+07	-11	ND	0.00E+00	6.11E+07	NA
Vinyl chloride	3:20	1237052			0.00E+00	0		
RF		2.47E+08	2.71E+08	-9	ND	0.00E+00	2.71E+08	NA
Chloroethane	3:52	978618			0.00E+00	0		
RF		1.96E+08	2.28E+08	-14	ND	0.00E+00	2.28E+08	NA
Trichlorofluoromethane	3:73	1207032			0.00E+00	0		
RF		2.41E+08	2.66E+08	-9	ND	0.00E+00	2.66E+08	NA
1,1,2-Trichloro-trifluoroethane	4:34	1904236			0.00E+00	0		
RF		3.81E+08	4.07E+08	-6	ND	0.00E+00	4.07E+08	NA
1,1-Dichloroethene (PID)	4:32	152487			0.00E+00	0		
RF		3.05E+07	3.15E+07	-3	ND	0.00E+00	3.15E+07	NA
Methylene chloride	4:85	2140298			0.00E+00	0		
RF		4.28E+08	4.19E+08	2	ND	0.00E+00	4.19E+08	NA
trans-1,2-Dichloroethene	5:14	1862956			0.00E+00	0		
RF		3.73E+08	3.82E+08	-2	ND	0.00E+00	3.82E+08	NA
1,1-Dichloroethane	5:58	1644530			0.00E+00	0		
RF		3.29E+08	3.17E+08	4	ND	0.00E+00	3.17E+08	NA
Cis-1,2-Dichloroethane	6:20	1994130			0.00E+00	0		
RF		3.99E+08	3.79E+08	5	ND	0.00E+00	3.79E+08	NA
Chloroform	6:54	2147966			0.00E+00	0		
RF		4.30E+08	3.81E+08	13	ND	0.00E+00	3.81E+08	NA
1,1,1-Trichloroethane	6:80	1864039			0.00E+00	0		
RF		3.73E+08	3.38E+08	10	ND	0.00E+00	3.38E+08	NA
Carbon tetrachloride	7:00	2203341			0.00E+00	0		
RF		4.41E+08	4.32E+08	2	ND	0.00E+00	4.32E+08	NA
Benzene (PID)	7:21	433934			0.00E+00	0		
RF		8.68E+07	8.55E+07	2	ND	0.00E+00	8.55E+07	NA
1,2-Dichloroethane	7:23	1780289			0.00E+00	0		
RF		3.56E+08	3.11E+08	14	ND	0.00E+00	3.11E+08	NA
Trichloroethene	8:00	2001920			0.00E+00	0		
RF		4.00E+08	3.63E+08	10	ND	0.00E+00	3.63E+08	NA
Toluene (PID)	9:68	490884			0.00E+00	0		
RF		9.82E+07	9.15E+07	7	ND	0.00E+00	9.15E+07	NA
1,1,2-Trichloroethane	10:24	2178464			0.00E+00	0		
RF		4.36E+08	3.90E+08	12	ND	0.00E+00	3.90E+08	NA
Tetrachloroethene	10:50	2160418			0.00E+00	0		
RF		4.32E+08	3.91E+08	11	ND	0.00E+00	3.91E+08	NA
1,1,1,2-Tetrachloroethane	11:84	2241907			0.00E+00	0		
RF		4.48E+08	4.14E+08	8	ND	0.00E+00	4.14E+08	NA
Ethylbenzene (PID)	11:85	470042			0.00E+00	0		
RF		9.40E+07	8.87E+07	6	ND	0.00E+00	8.87E+07	NA
m,p-Xylene (PID)	12:01	1204233			0.00E+00	0		
RF		2.41E+08	2.32E+08	4	ND	0.00E+00	2.32E+08	NA
o-Xylene (PID)	12:62	476690			0.00E+00	0		
RF		9.53E+07	9.09E+07	5	ND	0.00E+00	9.09E+07	NA
1,1,2,2-Tetrachloroethane	13:59	2188405			0.00E+00	0		
RF		4.38E+08	3.95E+08	11	ND	0.00E+00	3.95E+08	NA

4/4/95

ANALYST: Ragi Abraham

REVIEWED BY: David M. Pride



Table B-5  
Environmental Support Technologies, Inc.  
Detection Limits for Soil Gas Surveys

Detection Limits or Reportable Limits of Quantitation for Halogenated and Aromatic Hydrocarbons are 1 ug/L when the injection volume is 500 uL. For lesser injection volumes detection limits are listed below.

Injection Volume (uL)	Detection Limit (ug/L)
500	1.0
250	2.0
200	2.5
100	5.0
80	6.3
60	8.3
50	10.0
40	12.5
20	25.0
10	50.0
5	100.0
1	500.0

**Appendix C**

**EST's STANDARD METHODS AND PROCEDURES**

## ENVIRONMENTAL SUPPORT TECHNOLOGIES, INC.

### SOIL GAS SURVEYING METHODS AND PROCEDURES FOR NESTED SOIL GAS SAMPLING PROBES

Environmental Support Technologies, Inc. (EST) will perform soil gas surveys in accordance with Los Angeles Regional Water Quality Control Board (LARWQCB) "Requirements for Active Soil Gas Investigation" dated March 8, 1994. Some procedures may be modified based on evaluation of project needs. Modifications to these procedures, if necessary, will be approved prior to implementation and will be described in the soil gas survey report.

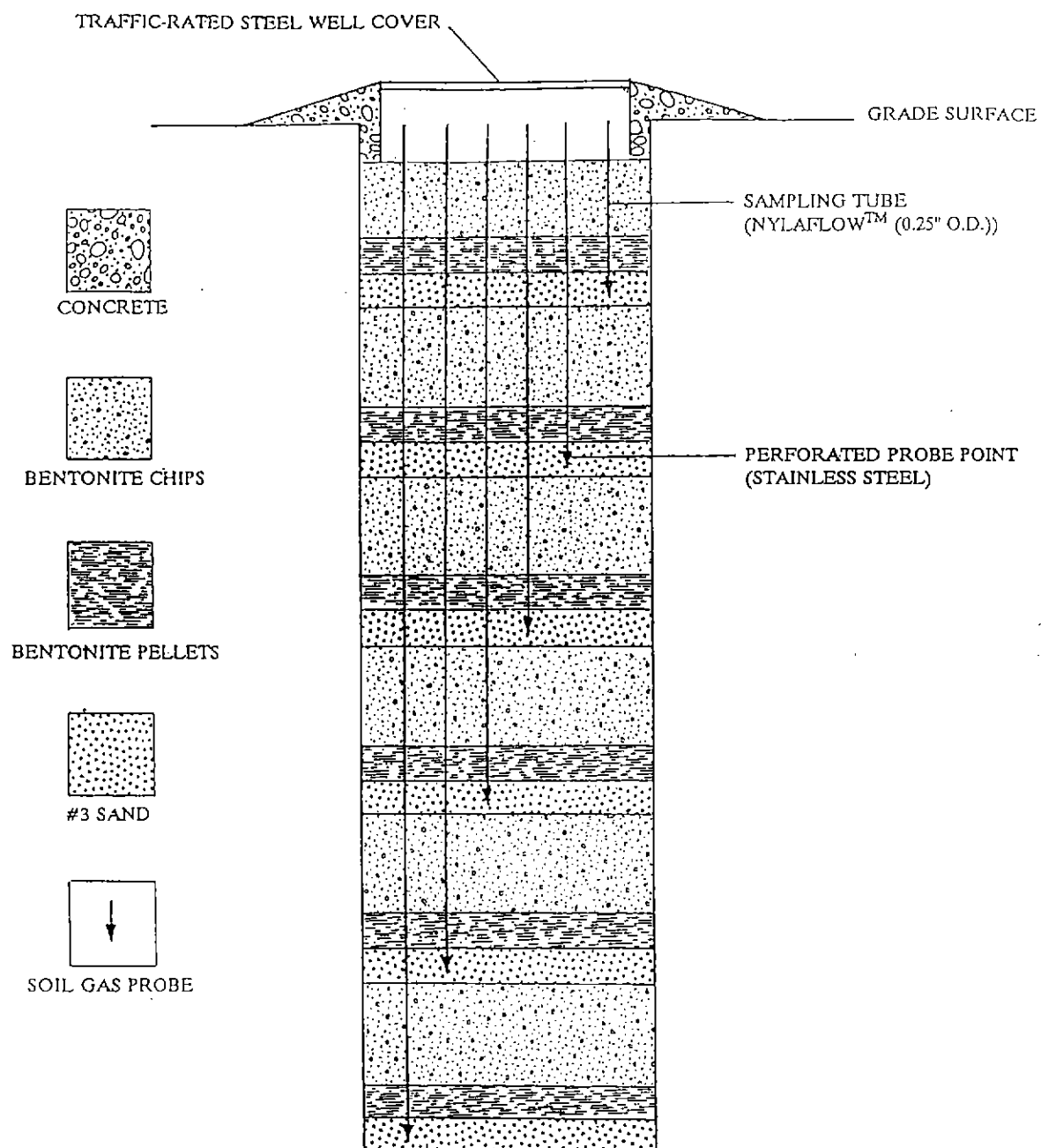
#### NESTED SOIL GAS PROBE INSTALLATION

Nested probes provide useful data for assessment of the vertical extent of potential soil contamination by VOCs at a particular point. Construction of a typical nested probe installation is shown in Figure 1. Details of typical nested probe construction are described below. Nested soil gas probes are typically installed at selected depths based on field screening of soil samples during drilling, or where a fine-grained lithology is encountered.

Upon drilling to total depth and completion of soil sampling, the soil boring will be converted to a nested probe installation. The borehole will typically be overdrilled by approximately one foot, and a total bore-hole depth measurement will be recorded. Depths below grade will be measured by sounding the borehole with a weighted engineer's tape graduated in 0.1-foot increments. The auger string will then be raised slightly and #3 Monterey sand will be poured down the hollow auger-stem until the boring has been backfilled approximately one foot, to the first depth of interest. A labeled and weighted soil gas probe will be lowered down the hollow auger-stem until the #3 sand-pack is encountered. The weighting of the distal end of the probe will ensure that the probe point remains in place during installation. Additional #3 Monterey sand will be added to the boring, burying the probe point and back-filling the boring to approximately one foot above the probe.

The two-foot-thick sand pack will allow for diffusion of soil gas into the sampling interval containing the probe point. In general, the sand pack should not exceed two feet in thickness. However, latest LARWQCB requirements for vertical profiling/nested probe soil gas surveys suggest that in deeper nested probe installations (greater than 100 feet below grade), the sand pack should extend approximately four feet above the probe point to allow for potential settling of the sand pack due to overburden pressure.

The sand pack interval will be capped with approximately 1.5-feet of bentonite pellets. Medium bentonite chips will then be used to back-fill the boring to about one foot below the next level of interest. The bentonite chips will then be hydrated and allowed to expand for about 15 minutes before introducing the next sand pack. The waiting period will allow the bentonite chips to hydrate, ensuring that potential downward migration of the sand pack material through the underlying bentonite materials will not occur.



VERTICAL SCALE:  
1-inch = 1-foot  
BOREHOLE DIAMETER EXAGGERATED FOR CLARITY

FIGURE 1  
CONSTRUCTION DETAIL OF A TYPICAL  
NESTED SOIL GAS PROBE INSTALLATION  
ENVIRONMENTAL SUPPORT TECHNOLOGIES, INC.  
SOIL GAS SURVEYING METHODS AND PROCEDURES

After the waiting period, another sand pack/probe interval will be constructed using the procedures described above. This procedure will be repeated until grade surface is reached and probe installation is complete. To complete the nested probe installation at grade, a heavy-duty, traffic-rated well cover will be fitted and cemented in place.

### SOIL GAS SAMPLE COLLECTION AND HANDLING

About one month following installation, per LARWQCB requirements, soil gas samples will be collected from each probe and will be analyzed on site for LARWQCB target analytes, including volatile halogenated and aromatic hydrocarbons. Soil gas samples will be collected from the nested probes using the soil gas sampling system as shown in Figure 2. The soil gas sampling system is constructed of stainless-steel, glass, Nylaflo<sup>TM</sup>, and Teflon<sup>TM</sup> components. Instrumentation associated with the sampling system includes a calibrated flow-meter and vacuum gage. Vacuum integrity of the sampling system will be tested prior to, and after the soil gas survey using leak-down testing methods.

Nested soil gas sampling probes will be purged at a flowrate of approximately 100 milliliters per minute (mL/min). Site-specific probe purging and sample volume calibrations will be initially performed to evaluate the appropriate volume of gas to be purged from each probe prior to sample collection. This will be done by performing time-series sampling of at least one probe to evaluate trends in soil gas concentrations as a function of purge volume. If soil lithologies are consistent, a single determination will be adequate.

After probe purging, soil gas samples will be withdrawn from the moving sample stream using a glass syringe fitted with a disposable needle and Mininert<sup>TM</sup> gas-tight valve. Soil gas samples will be analyzed by direct gas injection into a laboratory-grade, field-operable gas chromatograph (GC).

### SOIL GAS SAMPLE ANALYSES

Soil gas samples collected from nested probes will be analyzed in the field using a field-operable GC equipped with a photo-ionization detector (PID) and an electrolytic conductivity detector (ELCD). The PID and ELCD will be configured in-series to analyze for EPA Method 8010/8020 target compounds as specified in the LARWQCB requirements (March 8, 1994) including halogenated and aromatic hydrocarbons.

Detection limits for the LARWQCB target compounds will be no more than one microgram per liter ( $\mu\text{g/L}$ ) of gas except when compound concentration exceeds the initial calibration range. Soil gas samples may be analyzed for other constituents on a site-specific basis. Other common analyses methods include total volatile hydrocarbons (TVHs) as gasoline, mineral spirits, or jet fuel, and selected ketones. A series of quality assurance/quality control (QA/QC) analyses will be performed prior to, during, and following the analysis of soil gas samples. A summary of these QA/QC analyses is shown in Table 1, and each analysis described below.

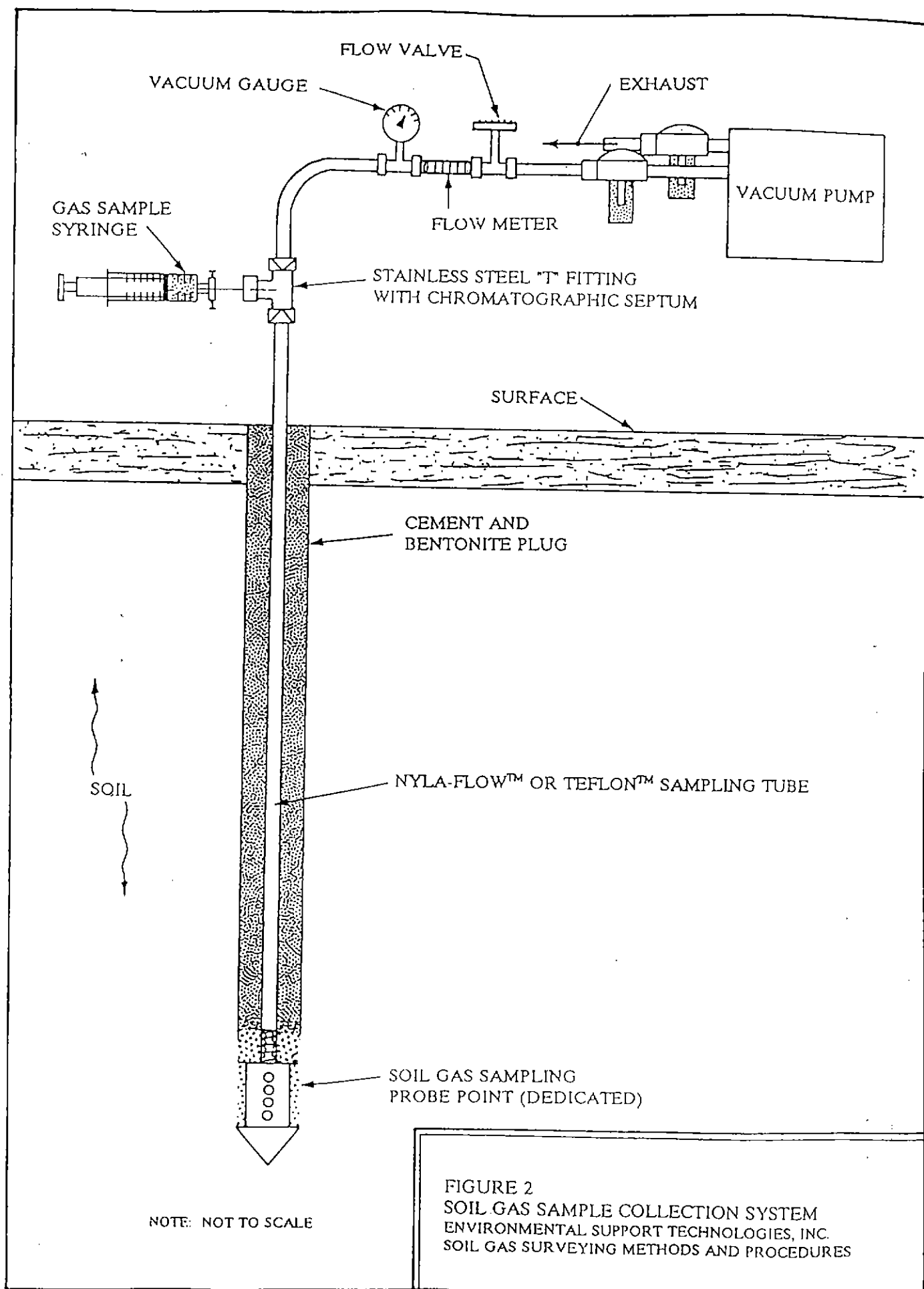


FIGURE 2  
SOIL GAS SAMPLE COLLECTION SYSTEM  
ENVIRONMENTAL SUPPORT TECHNOLOGIES, INC.  
SOIL GAS SURVEYING METHODS AND PROCEDURES

TABLE 1  
SUMMARY OF  
QUALITY ASSURANCE/QUALITY CONTROL ANALYSES  
FOR SOIL GAS SURVEYS

CALIBRATION AND LABORATORY CONTROL SAMPLES		
DESCRIPTION	FREQUENCY	PRECISION GOAL %RSD or %DIFF
INITIAL THREE-POINT CALIBRATION (25 Target Compounds)	At the beginning of the soil gas survey, unless the RPDs of the initial laboratory check sample or daily mid-point calibration check samples exceed their goals.	20-30 (1)
INITIAL LABORATORY CONTROL SAMPLE (LCS) (25 Target Compounds)	At the beginning of the survey, following the initial three-point calibration.	15 (2)
DAILY MID-POINT CALIBRATION CHECK (12 Target Compounds)	At the beginning of each day.	15 (3) 25 (3)
LAST GC TEST RUN (12 Target Compounds)	At the end of each day.	20 (4)
FIELD CONTROL SAMPLES		
DESCRIPTION	FREQUENCY	PRECISION GOAL
BACKGROUND SAMPLE (5)	Minimum one per day.	N/A
SYRINGE BLANK (5)	Minimum one per day.	N/A

%RSD = Percent Relative Standard Deviation calculated based on the initial three-point calibration.

%DIFF = Percent Difference between the response factor obtained from the LCS, the daily mid-point calibration, or the last GC test run and the average response factor initially calculated based on the three-point calibration.

N/A = Not applicable.

(1) The %RSD goal for the initial three-point calibration will be 20 percent for all compounds except for Freon 11, Freon 12, Freon 113, chloroethane, and vinyl chloride for which the %RSD goal is 30 percent.

(2) The %DIFF goal for the LCS will be 15 percent for all target compounds.

(3) The %DIFF goal for the daily mid-point calibration check will be 15 percent for all compounds except for Freon 11, Freon 12, Freon 113, chloroethane, and vinyl chloride for which the %DIFF goal is 25 percent.

(4) The %DIFF goal for the last GC test run will be 20 percent for all compounds except for Freon 11, Freon 12, Freon 113, chloroethane, and vinyl chloride for which the %DIFF goal is 30 percent.

(5) A syringe/background sample will be analyzed using ambient air. If volatile organic compounds (VOCs) are not detected, the ambient air sample will represent the background sample and syringe blank. If VOCs are detected in the ambient air sample, a syringe blank will be analyzed using ultra-high-purity helium or nitrogen gas.

## INITIAL MULTI-POINT EQUIPMENT CALIBRATION

The GC used for soil gas analyses will be calibrated using high-purity solvent-based standards obtained from certified vendors or using gas standards prepared in the field (for TVHs). Standards are typically prepared in high-purity methanol or dodecane solvent. Calibration using solvent-based standards will typically be performed using varying injection volumes of the stock solvent-based standard without dilution. If necessary, stock solvent-based standards will be diluted to an appropriate concentration. Diluted standards will be prepared by introducing a known volume of stock solvent-based standard into a known volume of high-purity solvent.

Initial GC calibration will be performed for EPA Method 8010/8020 compounds. The GC will be calibrated using three standard injections to establish a three-point calibration curve. The lowest standard will not be higher than five times the method detection limit (or 5  $\mu\text{g/L}$ ). The percent relative standard deviation (%RSD) of the response factor (RF) for each target compound will not exceed 20 percent except for trichlorofluoromethane (Freon<sup>TM</sup>-11), dichlorodifluoro-methane (Freon<sup>TM</sup>-12), trichlorotrifluoromethane (Freon<sup>TM</sup>-113), chloroethane, and vinyl chloride which will not exceed 30 %RSD. Identification and quantitation of compounds in the field will be based on calibration under the same analytical conditions as for three-point calibration.

## LABORATORY CONTROL SAMPLE (LCS)

A laboratory control sample (LCS) from a source other than the initial calibration standard will be used to verify the true concentration of the initial calibration standard. The LCS will include the LARWQCB target compounds and the RF for each compound will be within +/- 15 percent difference from the initial calibration.

## DAILY MID-POINT CALIBRATION CHECK

Daily field calibration of the GC will consist of a mid-point calibration analyses using the same standard as used for the initial multi-point calibration. The daily mid-point calibration check will include the 12 target compounds as specified in the previously referenced LARWQCB requirements. The RF of each compound (except for Freons<sup>TM</sup>-11, -12, and -113, chloroethane, and vinyl chloride) will be within 15 percent difference of the average RF from the initial calibration. The RF for the Freons<sup>TM</sup>-11, -12, and -113, chloroethane, and vinyl chloride will be within 25 percent difference of the initial calibration. If these criteria are not met, the GC will be re-calibrated. Daily calibration will be performed prior to the first sample analysis of the day. One-point calibration will be performed for all compounds detected at a particular site to ensure accurate quantitation. Subsequent calibration episodes, if deemed necessary, will consist of at least one injection of the standard exhibiting a similar detector response as that of samples encountered in the field.



## BLANK INJECTIONS

The syringes used for soil gas sample collection will be filled with ambient air or high-purity carrier-grade gas from a compressed gas cylinder. The ambient air or high-purity gas will be injected directly into the GC. The blank injection will serve to detect contamination of the syringe to be used for sampling and verify the effectiveness of equipment decontamination procedures.

## END OF DAY GC TEST RUN

A LCS will be analyzed at the end of each day. The LCS will contain the same compounds as the daily mid-point calibration standard (minimum 12 compounds). The LCS must be from a second source independent from the initial multi-point calibration standard. The RF for each compound will be within 20 percent difference of the average RF for the initial calibration. If this criteria is not met, additional LCS will be analyzed to satisfy this criteria.

## DECONTAMINATION PROCEDURES

Sampling equipment in contact with the soil gas sample stream will be decontaminated prior to initiation of sampling and prior to collection of each soil gas sample. Decontamination of soil gas sampling equipment will be conducted by baking in the gas chromatograph oven at approximately 160° Celsius.

## SHORTENING THE GC RUN TIME

Shortening the GC run time is acceptable only if the chemist feels that doing so will not sacrifice the quality of data obtained and doing so meets the approval of appropriate client and agency personnel.

## COMPOUND CONFIRMATION SAMPLE

As a means of compound confirmation, EST will collect one soil gas sample from a selected probe in a Tedlar™ bag for off-site analysis by a certified laboratory using gas chromatography/mass spectrometric (GC/MS) methods.

## REPORTING OF SAMPLE RESULTS AND QA/QC INFORMATION

Reporting of sample results and QA/QC information will be performed in accordance with the Los Angeles Regional Water Quality Control Board's "QA/QC and Reporting Requirement for Soil Gas Investigation" dated March 8, 1994.

## VAPOR MONITORING EVENTS

Latest LARWQCB requirements for vertical profiling/nested probe soil gas surveys require a minimum of three vapor monitoring events to evaluate the consistency of the data.

# GEOSYSTEM

Consultants, Inc.

April 5, 1994

Project No. 93-513

Mr. Mark Ziv  
Director  
TRANSGLOBE LIGHTING  
8238 Lankersham Boulevard  
North Hollywood, California 91605

Report  
Additional Subsurface Investigation  
Former Sprayco, Inc. Facility  
12600 Saticoy Street South  
North Hollywood, California  
(RWQCB File No. 111.1004)

Dear Mr. Ziv:

This report documents and presents the results of the soil gas survey and the additional subsurface investigation conducted by Geosystem Consultants, Inc. (Geosystem) at the former Sprayco, Inc. (Sprayco) facility at 12600 Saticoy Street South in the North Hollywood area of Los Angeles, California. The site location is shown in Figure 1 and a plan of the site is presented in Figure 2. The scope of the investigation was generally consistent with Geosystem's December 8, 1993 work plan, which was based on records maintained by the County of Los Angeles (the County) pertaining to a release of organic chemicals at the site in August 1990, data obtained from the initial subsurface investigation as presented in Geosystem's October 6, 1993 report, and discussions between the staff of the California Regional Water Quality Control Board, Los Angeles Region (RWQCB), the Los Angeles County Fire Department (LACFD), and Geosystem on November 18, 1993.

## BACKGROUND INFORMATION

The following background information summarizes the August 1990 release, which triggered this and previous investigations and summarizes the findings of initial soil sampling and analyses conducted by Geosystem in July 1993.

### August 1990 Incident

On August 17, 1990, at approximately 2:30 p.m., County personnel responded to a complaint from an employee at a neighboring facility of "leaking and fuming" drums in the rear (south) portion of the Sprayco site. The employee at the neighboring facility showed County personnel a "grayish pool of free-standing liquid," which apparently originated on the Sprayco site but which reportedly extended beneath the chainlink fence onto the adjacent facility to the south. When questioned, Sprayco personnel reportedly

stated that the pool of liquid resulted from paint stripping operations in which painted metal parts were soaked in a 55-gallon drum of "paint stripper," removed, and then "hosed down" with water. The pooled liquid was reportedly the "effluent" from this process. An undated summary of the incident prepared by LACFD personnel states that the "pool of stripper" was centered in the rear (south) portion of the site and extended east to west along 75 percent of the rear fence. From the Material Safety Data Sheet, County personnel determined that the paint stripper apparently contained methylene chloride (MEC) and petroleum distillates and that the spent paint stripper was a "hazardous waste."

Throughout the afternoon of August 17, 1990, County personnel continued to question Sprayco personnel and inspect the facility. In the process, County personnel determined, among other things, that "solvent-saturated rags" were disposed of along with the regular trash and that approximately one hundred 5-gallon cans of "waste paint were air-drying" on the rear (south) portion of the site.

In the evening of August 17, 1990 and continuing into the early hours of August 18, a waste disposal contractor, Containerized Chemical Disposal, placed suspected hazardous materials in twenty-six 55-gallon drums. The hazardous materials, which were described by County personnel as "soil and absorbent material," were ultimately disposed of under manifest in Morgan City, Louisiana. Sprayco subsequently claimed that the drums were filled with between 80 and 100 percent of vermiculite absorbent material.

Six samples of various media suspected of being contaminated were collected by the County for analysis. The six samples and the results of the analyses were as follows:

<u>Sample No.</u>	<u>Sample Description</u>	<u>Analytical Results</u>
1	Liquid from 55-gallon drum	660,000 mg/l methylene chloride 24,000 mg/l toluene
2	Soil from ground	ND<5 mg/kg for 8010/8020
3	Sludge from pool on ground	150 mg/kg methylene chloride 1,700 mg/kg 1,1,1-trichloroethane 200 mg/kg tetrachloroethylene 1,500 mg/kg toluene
4	Grey liquid from waste wash tanks at rear of building	3,100 mg/l toluene
5	Saturated rags and newspapers	Not analyzed
6	Blue thick paint in dumpster	5,200 mg/l toluene 2,800 mg/l ethyl benzene 9,400 mg/l total xylenes 30 mg/l 1,1,1-trichloroethane

Of these six samples, only Samples 2 and 3 are of direct interest in the subject subsurface investigation. Based on the sampling records maintained by County personnel and discussions with County personnel on October 21, 1993, it appears that the soil sample (Sample 2) was collected at, or very near, the southern property line, in an unpaved strip beneath the chainlink fence. In a telephone conversation on October 21, 1993, County personnel stated that the sample of "dark moist soil" was collected from soil exposed at the ground surface and which had been inundated with the "grey liquid" mentioned above. The grey sludge sample (Sample 3) was collected from an asphalt paved area near the southern property line, again in an area that had been inundated by the "grey liquid." The results of the analyses indicate that the soil sample did not contain detectable concentrations of any of the halogenated organic compounds analyzed by U.S. Environmental Protection Agency (EPA) Methods 8010 and 8020. The sludge sample contained elevated concentrations of several halogenated and aromatic hydrocarbons, namely MEC, 1,1,1-trichloroethane (TCA), tetrachloroethylene (PCE), and toluene. It is noted that the samples appear to have been analyzed nearly five months after they were collected. As such, the data are of questionable value and are considered semiquantitative for the purposes of this evaluation.

Allowing for the potentially poor data quality, the results of the analyses of the soil sample do not indicate significant contamination of the native soils, although the results of the sludge sample analysis clearly indicate that organic chemicals or aqueous solutions containing organic chemicals were discharged to the ground surface. Based on conversations with County personnel, it is Geosystem's understanding that the Material Safety Data Sheets for one or more of the organic chemicals in use at the site also indicated that it (or they) contained elevated concentrations of metals. Accordingly, the County is concerned that near-surface soils at the site may have been impacted by metals.

#### INITIAL SUBSURFACE INVESTIGATION

The initial subsurface investigation conducted by Geosystem in July 1993 consisted of collecting and analyzing soil samples from shallow hand-augered borings in three suspected release areas identified by RWQCB staff during a site inspection on November 30, 1990. The investigation, reported on October 6, 1993, identified the presence of halogenated and aromatic volatile organic compounds (VOCs) in soil but at relatively low concentrations and generally limited to the upper 5 feet of the soil profile. The locations of the soil borings are shown in Figure 2 and the results of the soil sample analyses are summarized in Table 1.

Based on ground water contour maps prepared by the Watermaster for the Upper Los Angeles River Area between fall 1977 and fall 1981, the depth to ground water appears to fluctuate from 185 to 260 feet below grade. Based on this depth to ground water and the limitation of PCE to the upper 5 feet of the soil profile, Geosystem concluded that the potential for ground water quality to have been impacted was negligible.

## ADDITIONAL SUBSURFACE INVESTIGATION

The findings of the initial subsurface investigation were discussed with the RWQCB and the LACFD at a meeting at the site on November 18, 1993. The RWQCB expressed concern regarding the lateral and vertical extent of VOCs in soil. The LACFD expressed concern about the possible presence of metals in near-surface soil. To address these regulatory agency concerns, Geosystem performed two phases of additional subsurface investigation; a soil gas survey for VOCs and the collection of soil samples for metals analysis. These investigative activities are described below.

### Soil Gas Survey

The soil gas survey was subcontracted to AeroVironment, Inc. (AeroVironment) of Monrovia, California. AeroVironment is an RWQCB-approved soil gas contractor and all field and laboratory work was conducted in accordance with RWQCB-approved procedures. A copy of AeroVironment's soil gas survey procedures and results is provided in Appendix A to this report.

In the first phase of the survey, soil gas samples were collected from a nominal depth of 5 feet at 21 survey locations; 14 outside and to the south of the warehouse building, and 7 inside the building. Soil vapor sample locations are shown in Figure 2. The 14 outside survey locations were generally arranged on 25-foot centers in a rectangular grid pattern intended to provide comprehensive coverage in the area in which VOCs were reportedly discharged to the ground surface. The grid pattern is "tighter," i.e., the survey locations are closer together, in the southeast corner of the site, near the former solvent storage area where elevated concentrations of PCE have previously been detected in near-surface soil samples. Inside the building, three locations were surveyed in the vicinity of the former degreaser and four locations were surveyed in the vicinity of the former paint spray booths. The soil gas samples were analyzed on site in a mobile laboratory for halogenated and aromatic VOCs using U.S. Environmental Protection Agency (EPA) Methods 8010 and 8020, respectively. The first phase gas probes were retracted after collecting and analyzing the soil gas samples.

The results of the first phase of the survey were evaluated in the field and used to determine the scope of the second phase. The purpose of the second phase was to further delineate the vertical distribution of VOCs in soil gas. Specifically, soil gas samples were collected from a nominal depth of 15 feet in areas where the highest VOC concentrations were measured in the 5-foot samples. The Phase Two soil gas probes were driven adjacent to, and within 12 inches of, the Phase One soil gas probes.

A summary of the results of the soil gas sample analyses is presented in Table 2. A complete account of sample collection, analysis, and quality control procedures is presented in AeroVironment's March 4, 1994 report, which is included as Appendix A to this report. Of the compounds analyzed by EPA Methods 8010 and 8020, only 1,1-dichloroethylene (DCE), TCA, trichloroethylene (TCE), and PCE were detected in any of the soil gas samples.

Outside the building, DCE concentrations ranged from less than  $1 \mu\text{g}/\ell$  (below the detection limit) to  $4.19 \mu\text{g}/\ell$ . Inside the building DCE concentrations ranged from less than  $1 \mu\text{g}/\ell$  to  $3.07 \mu\text{g}/\ell$ . TCA concentrations were measured as high as  $62.53 \mu\text{g}/\ell$  outside the building at survey location V-6, and as high as  $26.78 \mu\text{g}/\ell$  inside the building at survey location V-18. Outside the building, TCE ranged in concentration from less than  $1 \mu\text{g}/\ell$  to  $20.26 \mu\text{g}/\ell$  at survey location V-9. TCE was not detected inside the building. PCE concentrations were measured as high as  $128.37 \mu\text{g}/\ell$  outside the building at survey location V-11. Measured PCE concentrations inside the building ranged from  $4.45 \mu\text{g}/\ell$  to  $6.21 \mu\text{g}/\ell$ . Of the four compounds detected, only PCE was detected at concentrations an order of magnitude above measured background values. The highest PCE concentrations occurred outside the building in the southeastern portion of the site in the vicinity of survey locations V-11 and V-14.

Phase Two vapor samples were collected at a nominal depth of 15 feet below grade at survey locations V-7, V-9, V-11, and V-12, and within 1 foot of the corresponding Phase One vapor sample locations. In general, concentrations at the nominal 15-foot depth were less than concentrations measured at the 5-foot depth, indicating that the downward migration of contaminants appears to be limited.

#### Soil Sampling and Analysis

Based on the results of the soil gas survey described above, and based on discussions with LACFD personnel, three soil sampling locations were selected to evaluate the possible presence of metals in soil. In addition, a background sampling location was selected to help evaluate the data in the context of naturally occurring metals concentrations. The soil sample locations, shown in Figure 2, were within the area of highest VOC concentrations reported in the soil gas survey outside of the building. The rationale for this strategy is that metals were most likely discharged to the ground surface in the same aqueous solution(s) as the VOCs. Accordingly, elevated metals concentrations can reasonably be expected to coincide with elevated VOC concentrations.

At each soil sampling location, a boring was hand-augered to 5 feet below grade. The borings were advanced using a 3.25-inch diameter hand auger. Undisturbed soil samples were collected from each boring at nominal depths of 0.5, 1.5, and 5 feet below grade. The samples were collected in 2-inch diameter by 6-inch long stainless steel sample sleeves. The

sample sleeves were housed in a hardened steel sampling attachment, which was driven into the ground using a geotechnical slide hammer. Immediately upon removal from the boring, the sampling attachment was disassembled and the soil-filled sample sleeve removed. The ends of the sample were trimmed flush and sealed with air-tight plastic end caps lined with Teflon foil. On completion of soil sampling activities, the borings were backfilled with bentonite chips, which were hydrated in place using potable water. Surface paving was restored with "cold-patch" asphalt to match existing grade. All drilling and soil sampling equipment was thoroughly cleaned prior to first use and between subsequent borings and sampling attempts. The cleaning procedure included scrubbing in an Alconox solution followed by potable and distilled water rinses. Drill cuttings were sealed in a 55-gallon drum, which is currently in storage at the site pending disposal.

The soil samples were labeled with a unique sample identification number and placed on ice in a cooler. The samples were hand-delivered to Del Mar Analytical (Del Mar) in Irvine, California, following standard chain-of-custody procedures. The 0.5-foot samples from each boring were analyzed for total priority pollutant metals. Based on the results, the 1.5-foot sample from location SB-6 was also analyzed for total priority pollutant metals. Del Mar is certified by the State of California to perform metals analysis. The results of the soil sample analysis are summarized in Table 3. Soluble threshold limit concentration (STLC) values and total threshold limit concentration (TTLC) values are also included in Table 3 for comparison purposes. Copies of the certificates of analyses are included as Appendix B to this report.

Several of the near surface soil samples contained certain metals at concentrations marginally above the corresponding STLC values and one soil sample (from Boring SB-6 at a depth of 3 to 9 inches below grade) contained cadmium and lead at concentrations slightly above 10 times the corresponding STLC values. None of the soil samples, however, contained metals at concentrations anywhere near the corresponding TTLC values. Cadmium and lead concentrations in the deeper soil sample from Boring SV-6 (18 to 24 inches below grade) were well below STLC values. Given these results, it is highly unlikely that the soluble metal content of any of the soil samples analyzed would exceed STLC values.

### CONCLUSIONS AND RECOMMENDATIONS

It is clear that chemicals released in August 1990, when the facility was leased to Sprayco, have impacted the near-surface soils at the site. Based on the concentrations of organic chemicals in soil and in soil gas, however, the potential for ground water, which reportedly occurs at between 185 and 260 feet below grade, to have been impacted is negligible. Metals concentrations in near-surface soils in the spill area, while above background levels, are not "hazardous" and do not pose a threat to potential receptors via ground water or via

April 5, 1994  
Mr. Mark Ziv  
Page 7

direct contact. Given the depth to ground water and the low concentrations of VOCs and metals in near-surface soils, it is Geosystem's opinion that no further site assessment is warranted.

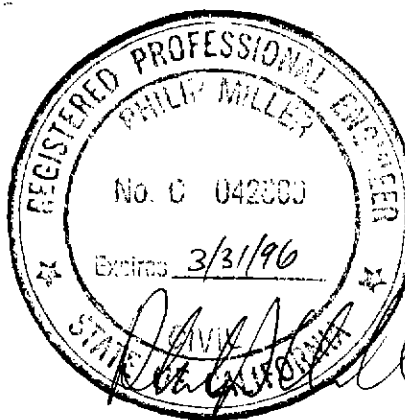
Geosystem Consultants, Inc. appreciates the opportunity to be of service. If you have any questions, please do not hesitate to call.

Respectfully submitted,

GEOSYSTEM CONSULTANTS, INC.



Philip Miller, P.E.  
Project Manager



PM:bs

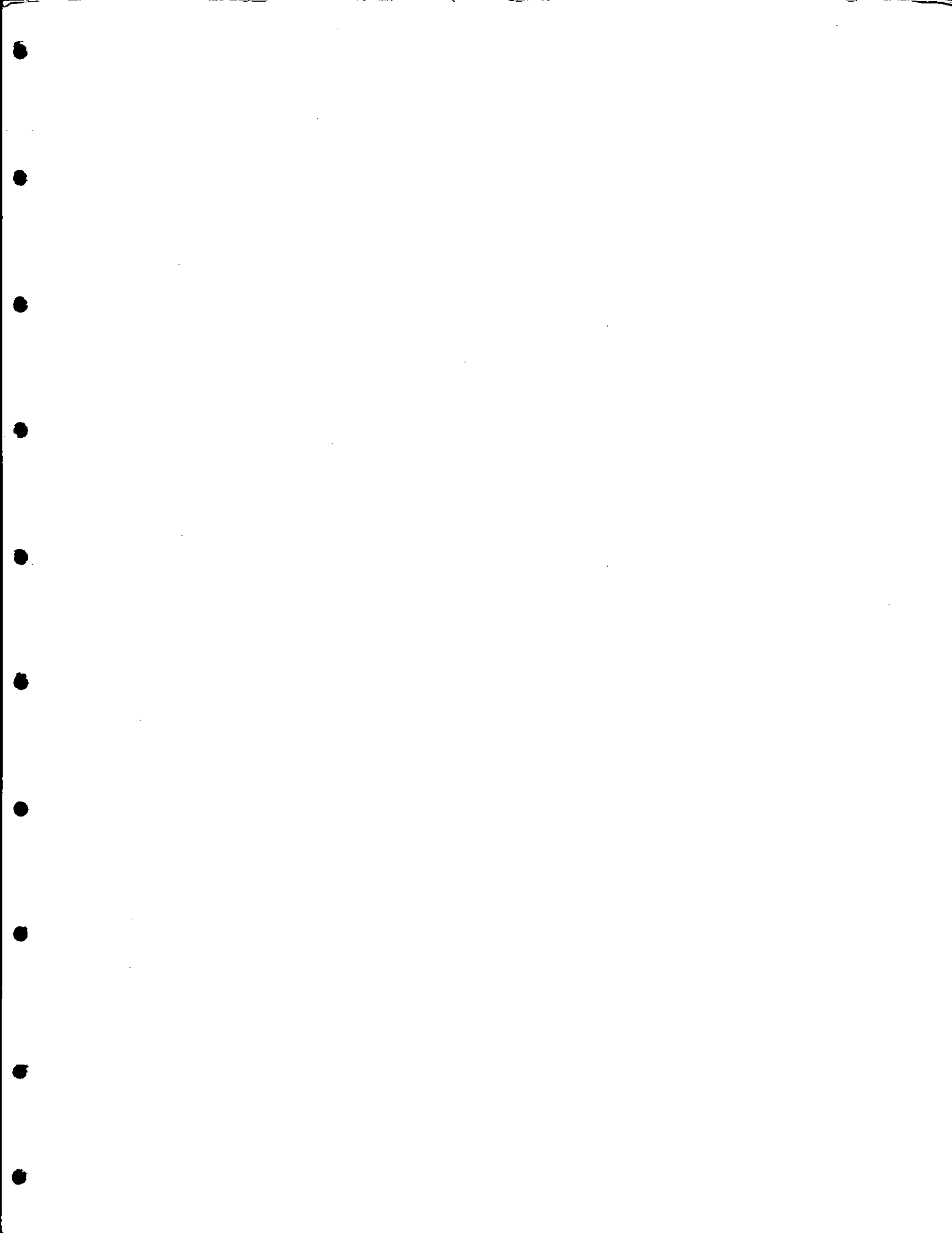
Attachments

Distribution: Addressee (2 copies)

Ms. Tizita Bekele - RWQCB, Los Angeles Region (3 copies)

Mr. Philip V. Kani - County of Los Angeles (1 copy)





**TABLES**

TABLE 2

**SUMMARY OF SOIL VAPOR SAMPLE RESULTS**  
(All units are in  $\mu\text{g/l}$ )

<u>SAMPLE ID.</u>	<u>DEPTH</u> (feet)	<u>DATE</u>	<u>1,1-DICHLORO- ETHYLENE</u>	<u>1,1,1-TRICHLORO- ETHANE</u>	<u>TRICHLORO- ETHYLENE</u>	<u>TETRACHLORO- ETHYLENE</u>
SG-V1	5	1/11/94	2.08	29.04	5.23	37.09
SG-V2	5	1/11/94	2.59	33.28	4.92	38.28
SG-V3	5	1/11/94	2.70	31.37	3.57	29.82
SG-V4	5	1/11/94	2.88	37.54	3.69	34.00
SG-V5	5	1/11/94	1.28	29.47	8.98	48.62
SG-V6	5	1/11/94	3.92	62.53	8.54	65.65
SG-V7	5	1/11/94	2.50	44.05	4.60	91.61
SG-V7.1	5	1/12/94	2.94	52.92	4.94	95.95
SG-V7.2	15	1/12/94	4.19	55.12	7.52	63.97
SG-V7.2 <sup>(1)</sup>	15	1/12/94	2.14	19.86	ND<1 <sup>(2)</sup>	12.30
SG-V7.3	5	1/12/94	1.95	36.51	2.52	32.74
SG-V8	5	1/11/94	2.78	46.01	8.91	57.00
SG-V9	5	1/11/94	ND<1	46.91	20.26	59.07
SG-V9.1	15	1/12/94	1.73	47.62	18.44	76.02
SG-V10	5	1/12/94	1.17	51.27	11.24	67.01
SG-V11	5	1/12/94	1.04	51.09	3.63	128.37
SG-V11.1	15	1/12/94	1.05	28.35	2.88	39.30
SG-V11.1 <sup>(1)</sup>	15	1/12/94	ND<1	17.51	1.91	33.87
SG-V12	5	1/12/94	2.60	58.60	6.67	97.91
SG-V12.1	15	1/12/94	3.32	52.59	5.08	52.98
SG-V12.1 <sup>(1)</sup>	15	1/12/94	ND<1	20.61	ND<1	6.02
SG-V12.2	5	1/12/94	0.98	22.53	2.61	73.49
SG-V13	5	1/12/94	1.35	43.93	4.79	78.19
SG-V14	5	1/12/94	1.27	46.92	4.02	85.62
SG-V15	5	1/12/94	ND<1	10.33	ND<1	6.21
SG-V16	5	1/12/94	ND<1	11.85	ND<1	4.54
SG-V17	5	1/12/94	1.04	16.13	ND<1	4.45
SG-V18	5	1/12/94	3.07	26.78	ND<1	6.15
SG-V19	5	1/12/94	2.34	21.31	ND<1	5.52
SG-V20	5	1/12/94	2.58	24.69	ND<1	5.29
SG-V21	5	1/12/94	1.68	14.83	ND<1	5.14
SG-VBG <sup>(3)</sup>	5	1/12/94	1.18	10.34	ND<1	3.35

## NOTES:

- (1) Duplicate analysis.  
 (2) ND denotes Not Detected at detection limit indicated.  
 (3) Background sample.

TABLE 3

**TOTAL METALS CONCENTRATIONS IN SOIL**  
(All units in mg/kg - parts per million)

<u>SAMPLE ID.</u>	<u>DEPTH</u>	<u>BARIUM</u>	<u>CADMIUM</u>	<u>TOTAL CHROMIUM</u>	<u>COBALT</u>	<u>COPPER</u>	<u>LEAD</u>	<u>MERCURY</u>	<u>NICKEL</u>	<u>VANADIUM</u>	<u>ZINC</u>
SB-5	3 - 9"	72	0.55	4.8	2.3	15	45	0.11	3.5	11	40
SB-6	3 - 9"	110	13	81	3.0	40	180	0.20	9.5	11	740
	18 - 24"	NA <sup>(1)</sup>	3.3	37	NA	16	8.9	ND<0.075	5.7	NA	180
SB-7	3 - 9"	170	ND<0.1 <sup>(2)</sup>	15	8.7	24	17	0.16	9.6	29	49
BG-1	3 - 9"	66	ND<0.1	7.4	4.4	9.9	3.2	ND<0.075	5.3	19	35
STLC <sup>(3)</sup>		100	1	560	80	25	5	0.2	20	24	250
10 x STLC		1,000	10	5,600	800	250	50	2	200	240	2,500
TTLC <sup>(4)</sup>		10,000	100	2,500	8,000	2,500	1,000	20	2,000	2,400	5,000

NOTES: (1) NA denotes Not Available.  
 (2) ND denotes Not Detected at detection limit indicated.  
 (3) Soluble Threshold Limit Concentration.  
 (4) Total Threshold Limit Concentration.

TABLE 1

## RESULTS OF SOIL SAMPLE ANALYSES

(All units are mg/kg - parts per million)

x 10<sup>2</sup> for PCB

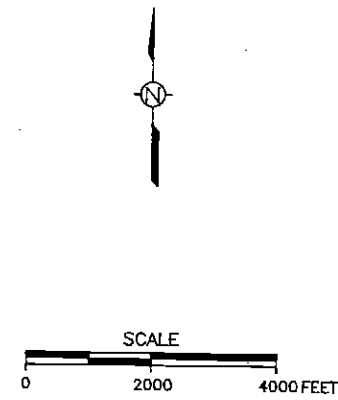
<u>SAMPLE ID.</u>	<u>DATE SAMPLED</u>	<u>TETRA CHLORO- ETHYLENE</u>	<u>1,1,2- TRICHLORO- ETHANE</u>	<u>1,1,1- TRICHLORO- ETHANE</u>	<u>TRICHLORO- ETHYLENE</u>	<u>DICHLORO- METHANE <sup>(1)</sup></u>	<u>ETHYL BENZENE</u>	<u>TOLUENE</u>	<u>TOTAL XYLENES</u>	<u>TOTAL PETROLEUM HYDROCARBONS</u>
FB-1 1.5'	07/08/93	32	ND<0.8	ND<0.8	ND<0.8	ND<1.6	ND<0.8	ND<0.8	ND<0.8	2,800
5'	07/08/93	1.1	ND<0.02	0.037	ND<0.02 <sup>(2)</sup>	1.8	ND<0.02	ND<0.02	0.083	180
10'	07/08/93	ND<0.001	0.0017	ND<0.001	ND<0.001	0.014	ND<0.001	ND<0.001	0.0012	9.0
FB-2 1'	07/08/93	0.25	ND<0.004	ND<0.004	ND<0.004	0.061	ND<0.004	ND<0.004	ND<0.004	31
5'	07/08/93	0.012	ND<0.001	ND<0.001	ND<0.001	0.018	ND<0.001	ND<0.001	0.0015	8.0
10'	07/08/93	0.005	ND<0.001	ND<0.001	ND<0.001	0.023	ND<0.001	ND<0.001	0.0015	14
FB-4 1'	08/02/93	0.021	ND<0.001	0.0014	ND<0.001	ND<0.002	0.0026	0.0029	0.015	22
5'	08/02/93	0.029	ND<0.001	ND<0.001	0.0019	ND<0.002	ND<0.001	ND<0.001	ND<0.001	13
10'	08/02/93	0.0034	ND<0.001	ND<0.001	ND<0.001	0.011	ND<0.001	ND<0.001	0.0013	20

NOTES: (1) Dichloroethene detected in lab blanks at concentrations ranging from ND&lt;0.001 to 0.015 parts per million.

(2) Trichloroethylene tentatively detected at a concentration of 0.0079 parts per million.



**FIGURES**



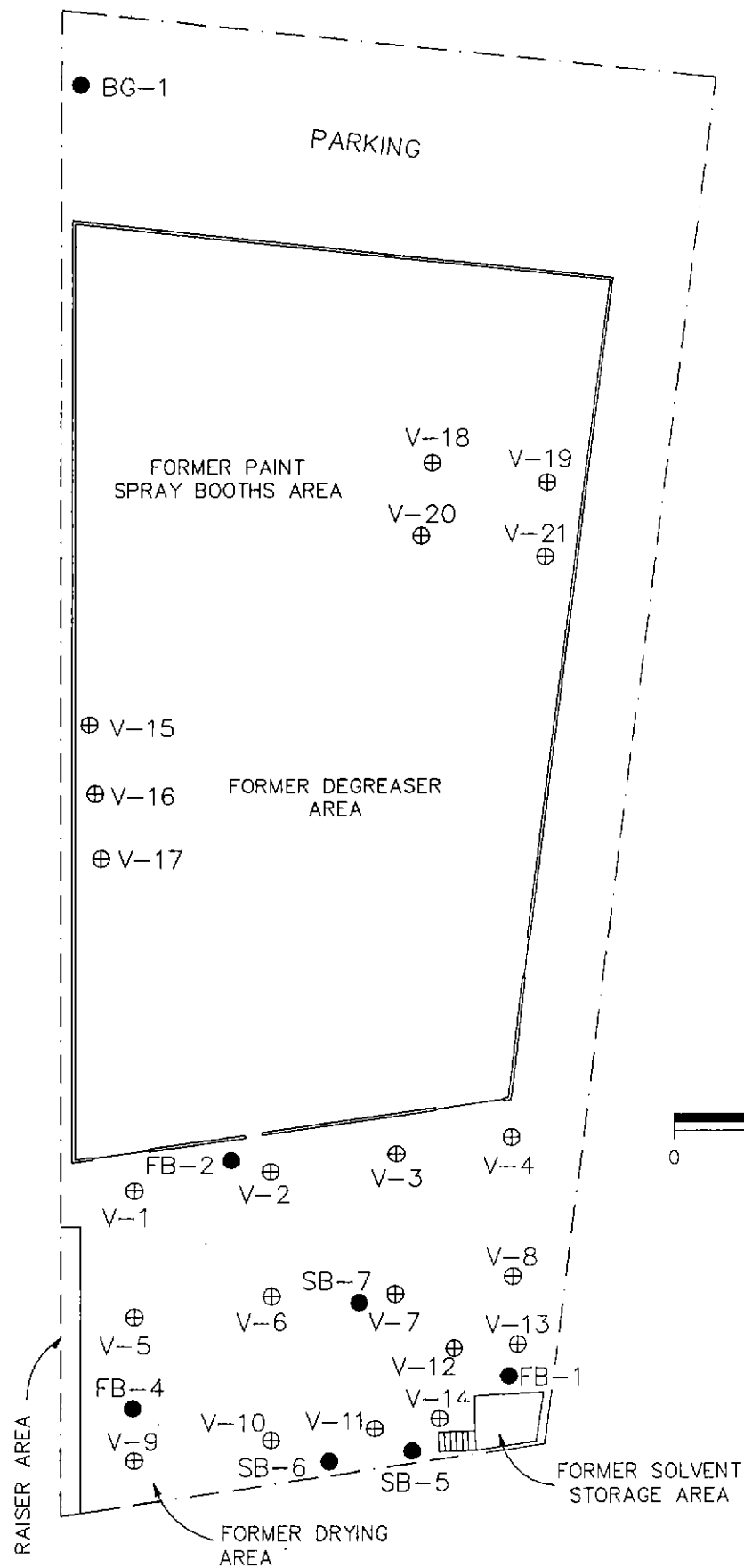
REFERENCE  
 U.S.G.S 7.5 MINUTE SERIES (TOPOGRAPHIC)  
 BURBANK AND VAN NUYS QUADRANGLES,  
 DATED 1966, PHOTOREVISED 1972.  
 SCALE = 1:24,000.

FIGURE 1

SITE LOCATION MAP

FORMER SPRAYCO FACILITY  
 12600 SATCOY STREET SOUTH  
 NORTH HOLLYWOOD, CALIFORNIA  
**GEO SYSTEM**  
 Consultants, Inc.





LEGEND

- ⊕ SOIL VAPOR SAMPLING LOCATION
- SOIL SAMPLING LOCATION

SCALE

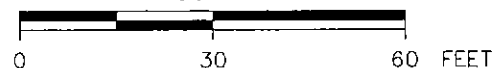


FIGURE 2

SITE PLAN

FORMER SPRAYCO FACILITY  
 12600 SATICOY STREET SOUTH  
 NORTH HOLLYWOOD, CALIFORNIA



**APPENDIX A**

4 March 1994

Please Reference: R93-300677R

Mr. Phil Miller  
Geosystem Consultants, Inc.  
18218 McDurrmott East, Suite G  
Irvine, CA 92714

Subject: Soil Vapor Sampling, Former Sprayco Facility, 12600 Saticoy Street South, North Hollywood, California. LARWQCB File No. 111.1004.

Dear Mr. Miller:

This report is prepared in accordance with AeroVironment Inc.'s proposal number P93-300677 and California Regional Water Quality Control Board, Los Angeles Regional (LARWQCB) File No. 111.1004.

#### **SCOPE OF WORK**

AeroVironment conducted soil vapor sampling at the former Sprayco Facility from January 11 to 12, 1994. The purpose of this soil vapor survey was to detect the horizontal distribution of volatile organic compounds (VOCs) in the subsurface in accordance with the well investigation plan (WIP) guidance document issued by the State of California, California Regional Water Quality Control Board, Los Angeles Region (LARWQCB).

Soil Vapor samples were collected from 30 sampling points. Twenty-six samples were collected at five feet below ground surface (bgs) and four from 15 feet bgs (SG-V12.1, SG-V7.2, SG-V11.1, and SG-V9.1). All samples were analyzed for chemical compounds on the LARWQCB analyte list (similar to the 8010/8020 analyte list).

The soil vapor analytical results presented in this report (Attachment 1) are obtained by sampling and analyzing soil vapor concentrations in the vadose zone. Analyte detection at a particular location is representative of vapor-phase contamination at that location. The presence of detectable concentrations of those analytes in the vadose zone is dependent upon several factors, including the presence of vapor-phase and liquid-phase VOC concentrations adequate to facilitate volatilization into the unsaturated zone.

## **PROCEDURES**

### **Field Procedures**

The soil vapor samples were collected through 1/8-inch outside diameter Nylaflow tubing that was advanced into the ground via a steel probe. The steel probe was driven to the target depth and then withdrawn about four inches, leaving the drive tip behind. The Nylaflow tubing was then attached to a 20 cc syringe and the ambient air in the Nylaflow tube was extracted (purged).

A purge volume/contamination test was conducted at one location (SG-V18) and three soil vapor samples 18A, 18B, and 18C were collected after purging 20, 40, and 60 cc, respectively of soil vapor through the Nylaflow tube.

A purge volume of 40 cc yielded the highest concentration values, therefore, 40 cc was used as the purge volume for all five-foot soil vapor sample probes. A purge volume of 60 cc was used for all the 15-foot soil vapor probes.

Each soil vapor sample was collected and locked into a 20 cc syringe by way of a special three-way valve and delivered via a specially designed carrying case, within 20 minutes of sample collection, to the mobile laboratory.

A tedlar bag sample was collected from SG-7.1 and analyzed at AeroVironment in Monrovia, California. The bag sample was collected to provide a second column confirmation of the peaks identified by AeroVironment's soil vapor survey.

### **Mobile Laboratory Procedures**

The soil vapor samples were analyzed on site in a mobile laboratory using a laboratory grade Hewlett-Packard 5890 Series II gas chromatograph (GC) equipped with a Hall electrolytic conductivity detector (ELCD), a photoionization detector (PID), and flame ionization detection (FID). The results were quantified using Hewlett-Packard's Chem-Station data system.

The soil vapor samples were directly injected into the chromatographic column through an injection port. The individual components present in the soil vapor were separated as they were drawn through the column by laboratory grade carrier gas. As each component (or group of components) exited the column and passed through the detectors, an electronic signal, proportional to the quantity of the component(s), was sent to the Chem-Station data system, which produced a plot of the detector response versus time (chromatogram of the soil vapor sample).

### **Quality Assurance/Quality Control**

To optimize the quality of the measurement data, AeroVironment's sampling and analysis, quality assurance/quality control (QA/QC) program was implemented. This program includes using strict sampling protocols to protect the integrity of the soil vapor samples, observing calibration procedures to ensure that valid data are obtained, and analysis of QC samples to check sampling procedures and instrument precision.

## **Sampling Protocols**

The sampling procedures detailed in the preceding sections were designed to maintain sample integrity and reproducibility of the data collected. To minimize the risk of cross-contamination, the protocols specified the use of purging and sampling equipment made of materials such as stainless steel and Teflon, which do not readily absorb organic chemicals. To further reduce the possibility of cross-contamination, areas where minimal or no contamination was suspected were sampled before those areas where high levels of contamination were expected. Purging only 40 cc of soil vapor before sample collection optimized the collection of a sample representative of the vapor in the soil. Purging, checking, and capping syringes before sample collection minimized the potential of contamination by ambient organic vapors. To minimize loss or degradation of the sample, minimal time is allowed to pass between sample collection and analysis. Use of gas-tight syringes with septa caps and transporting the syringes via a carrying case helped minimize the chance of sample loss during transport to the GC.

## **Instrument Calibration**

Proper calibration of the GC contributed to measurement accuracy and precision and provided a means for detecting instrument malfunction. The GC calibration was verified with NIST-traceable (National Institute of Science and Technology) standards at the beginning of each sampling day. Instrument calibration is verified by analyzing a liquid standard sample called the Mid-Standard. Results of this analysis were compared to Mid-Standard results obtained from the Three-Point Instrument Calibration Curve. A minimum of nine calibration standards, including three aromatics and six halogenated compounds (representing short, medium and long retention time groups) must be checked. A Mid-Standard calibration check was required for all compounds detected at a particular site to ensure quantification. The response factor for each of the compounds was within 15 percent of the corresponding value from the Three-Point Calibration, otherwise corrective action was implemented. The Three-Point Instrument Calibration Curve is recalculated as necessary.

## **QC Samples**

Two QC check samples were analyzed each working day, one at the beginning and one at the end to ensure acceptable analysis. The QC check sample was a standard obtained from a source different from the calibration standards. The QC check sample must contain the chemicals of concern at a minimum. A minimum of nine compounds must be checked. Response for each compound was within 20 percent of the corresponding true value as identified. If any QC check sample failed the requirement, the problem was resolved before proceeding with sample analysis. If soil vapor samples showed concentrations less than the laboratory reporting limit, a method detection limit (MDL) sample was analyzed at the end of each work day as the final QC check sample. For this project, a Mid-Standard was used at the end of the work day as the final QC check sample.

Any GC column is susceptible to remnant contamination, especially after highly contaminated samples are analyzed (more than 100 micrograms per liter ( $\mu\text{g/L}$ )). For this reason, equipment blanks (also called probe blank) or laboratory blanks are run as part of normal QC protocol. Equipment blanks are run at the start of each sampling day to document any residual contamination that remained in the sampling equipment that may interfere with sample analyses. The equipment blanks are collected in the same manner as an actual sample flowing through the entire sampling apparatus, but with uncontaminated or ultra zero-grade air from a commercial compressed-air cylinder. Laboratory blanks are run during each day of the sampling program to document any residual contamination that remained in the GC that may interfere with the sample analyses. The laboratory blanks are collected using a sampling syringe directly from an ultra zero-grade air source from a commercial compressed-air cylinder. Residual contamination found during blank analysis that may interfere with sample analyses was purged from either the equipment or the GC.

#### **Method Detection Limit**

The analytical MDL is defined as the minimum concentration that a substance can be measured according to a particular analytical method with 99 percent confidence that the minimum concentration measured is a real concentration with a value above zero. The MDL for the soil vapor analyses of VOCs, using analytical methods similar to United States Environmental Protection Agency (USEPA) analytical Methods 8010/8020, were established before this investigation as  $1.0 \mu\text{g/L}$ . The MDL was established by analyzing NIST-traceable standards and calculating the concentration of the smallest response signal that could be resolved. This process was repeated seven times and the standard deviation was calculated. The MDL is established as three times the standard deviation of the seven sample analyses. The MDL reported in this investigation is  $1.0 \mu\text{g/L}$ .

#### **DISCUSSION OF SOIL VAPOR RESULTS**

Thirty soil vapor samples were analyzed using analytical methodology similar to USEPA Methods 8010/8020. Attachment 1 contains the analytical results and soil vapor sampling logs, Attachment 2 contains the QA/QC data, and Attachment 3 contains the second column confirmation, Attachment 4 contains chromatograms for soil vapor sample SG-V7, and Attachment 5 contains chromatograms for soil vapor confirmation sample SG-V7.1.

Halogenated VOCs were detected in all soil vapor probes sampled and analyzed at the site. Summary of analytical results are shown in Table 1. Soil vapor probe locations are shown in Figure 1. Compounds detected were tetrachloroethene (PCE) (up to  $141.28 \mu\text{g/L}$ ), 1,1-dichloroethene (up to  $3.92 \mu\text{g/L}$ ), 1,1,1-trichloroethane (up to  $62.53 \mu\text{g/L}$ ), and trichloroethene (up to  $20.26 \mu\text{g/L}$ ). The highest concentrations of halogenated VOCs were detected in soil vapor samples collected from probes located in the area of the former solvent

Mr. Phil Miller  
R93-300677R  
4 March 1994  
Page 5 of 5

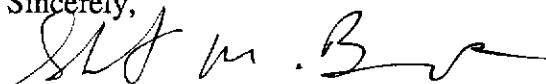
storage area. Soil vapor probe SG-11.2 located adjacent to the former solvent storage area, revealed the highest concentration of PCE at 141.28  $\mu\text{g/L}$ .

Results for PCE were out of the linear calibration range of the ELCD but within the PID calibration range. All QC requirements were met by the PID and are reported in the QC results. PCE results were calculated by using the responses from the PID.

The highest levels of halogenated VOCs appear to be confined to the area near the former solvent storage tank area in the southeast portion of the Property.

AeroVironment Inc., appreciates the opportunity to provide analytical services to Geosystem Consultants, Inc. If you have any questions or require further information, please do not hesitate to contact us.

Sincerely,



Stuart Berge  
Environmental Geologist



Bill Wyman, R.G.  
California Registered Geologist #4959

SB/BW/ljs  
Attachments



TABLE 1. Summary of Soil Vapor Analytical Results  
12600 Saticoy Street South, North Hollywood, California

Analyte Unit <sup>a</sup>	Detection Limit	Soil Vapor Probe Locations															
		SG-V1 5'	SG-V2 5'	SG-V3 5'	SG-V4 5'	SG-V5 5'	SG-V6 5'	SG-V7 5'	SG-V8 5'	SG-V9 5'	SG-V10 5'	SG-V11 5'	SG-V12 5'	SG-V13 5'	SG-V14 5'	SG-V7.1 5'	SG-V15 5'
		1/11/94 1137	1/11/94 1157	1/11/94 1215	1/11/94 1235	1/11/94 1255	1/11/94 1317	1/11/94 1339	1/11/94 1358	1/11/94 1418	1/11/94 1438	1/12/94 1457	1/12/94 1517	1/12/94 1537	1/12/94 1555	1/12/94 1121	1/12/94 1144
1,1-Dichloroethene (1,1-DCE)	1	2.08	2.59	2.70	2.88	1.28	3.92	2.50	2.78	BRL <sup>b</sup>	1.17	1.04	2.60	1.35	1.27	2.94	BRL
1,1,1-Trichloroethane (1,1,1-TCA)	1	29.04	33.28	31.37	37.54	29.47	62.53	44.05	46.01	46.91	51.27	51.09	58.60	43.93	46.92	52.92	10.33
Trichloroethene (TCE)	1	5.23	4.92	3.57	3.69	8.98	8.54	4.60	8.91	20.26	11.24	3.63	6.67	4.79	4.02	4.94	BRL
Tetrachloroethene (PCE)	1	37.09	38.28	29.82	34.00	48.62	65.65	91.61	57.00	59.07	67.01	<del>128.37</del>	97.91	78.19	85.62	95.95	6.21

Soil Vapor Probe Locations																	
SG-V16 5'	SG-V17 5'	SG-V18 5'	SG-V19 5'	SG-V20 5'	SG-V21 5'	SG-V12.1 15'	SG-V12.1D 15'	SG-V7.2 15'	SG-V7.2D <sup>c</sup> 15'	SG-V11.1 15'	SG-V11.1D 15'	SG-V9.1 15'	SG-VBG <sup>d</sup> 5'	SG-V12.2 5'	SG-V11.2 5'	SG-V7.3 5'	
1/12/94 1203	1/12/94 1222	1/12/94 1259	1/12/94 1335	1/12/94 1355	1/12/94 1415	1/12/94 1455	1/12/94 1455	1/12/94 1542	1/12/94 1542	1/12/94 1620	1/12/94 1620	1/12/94 1700	1/12/94 1716	1/12/94 1740	1/12/94 1758	1/12/94 1815	
1,1-DCE	BRL	1.04	3.07	2.34	2.58	1.68	3.32	BRL	4.19	2.14	1.05	BRL	1.73	1.18	0.98	BRL	1.95
1,1,1-TCA	11.85	16.13	26.78	21.31	24.69	14.83	52.59	20.61	55.12	19.86	28.35	17.51	47.62	10.34	22.53	26.08	36.51
TCE	BRL	BRL	BRL	BRL	BRL	BRL	5.08	BRL	7.52	BRL	2.88	1.91	18.44	BRL	2.61	1.68	2.52
PCE	4.54	4.45	6.15	5.52	5.29	5.14	52.98	6.02	63.97	12.30	39.30	33.87	76.02	3.35	73.49	<del>32.74</del>	32.74

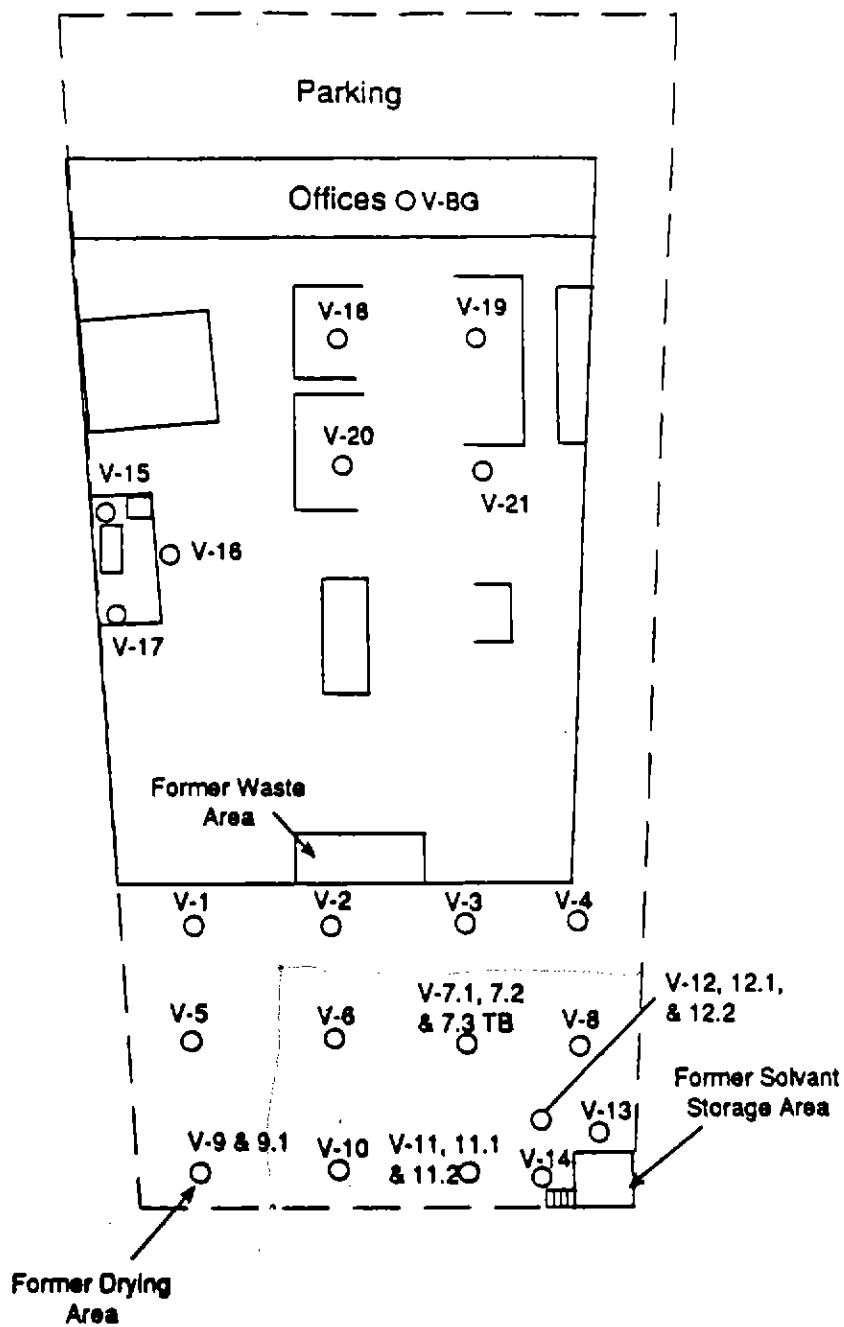
a µg/L = micrograms per liter

b BRL = below the laboratory reporting limit of less than 1 microgram per liter

c Duplicate

d Background

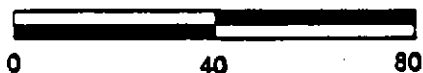
## SATICOY STREET SOUTH



## LEGEND

- - Soil Vapor Sampling Location  
 TB - Tedlar Bag Sample for Second Column Confirmation

Scale (feet)



**AeroVironment Inc.**  
 222 East Huntington Drive  
 Monrovia, California 91016

## SOIL VAPOR SAMPLE LOCATIONS

Former Sprayco Facility  
 12600 Saticoy St. So.  
 North Hollywood, CA

Project No. 300677

FIGURE

1

Attachment 1

**SOIL GAS SAMPLING LOGS AND  
SUMMARY TABLE**

## Soil Vapor Sample Collection Log

Project name: Geosystem Consultants

Analysis date: 01/11/94

Project#: 300677

Sample Number	Syringe Number	Sample Time	Probe Depth(ft)	Purge Flow(cc/m)	Purge Vacuum	Purge Vol(cc)	Sampled By	Comments
SG-V1	4	11:37	5	NA	NA	40	KJ/BH	
SG-V2	6	11:57	5	NA	NA	40	KJ/BH	
SG-V3	7	12:15	5	NA	NA	40	KJ/BH	
SG-V4	24	12:35	5	NA	NA	40	KJ/BH	
SG-V5	31	12:55	5	NA	NA	40	KJ/BH	
SG-V7	10	13:17	5	NA	NA	40	KJ/BH	
SG-V8	5	13:39	5	NA	NA	40	KJ/BH	
SG-V8	3	13:58	5	NA	NA	40	KJ/BH	
SG-V9	2	14:18	5	NA	NA	40	KJ/BH	
SG-V10	32	14:38	5	NA	NA	40	KJ/BH	
SG-V11	25	14:57	5	NA	NA	40	KJ/BH	
SG-V12	1	15:17	5	NA	NA	40	KJ/BH	
SG-V13	19	15:37	5	NA	NA	40	KJ/BH	
SG-V14	7	15:55	5	NA	NA	40	KJ/BH	

## AeroVironment Inc.

## Analytical Results for Geosystem Consultants

	Sample date:	01/11/94	01/11/94	01/11/94	01/11/94	01/11/94	01/11/94	01/11/94
	Sample time:	11:37	11:57	12:15	12:35	12:55	13:17	13:39
	Analysis time:	11:38	11:58	12:18	12:37	13:00	13:24	13:43
	Probe depth:	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Compound	Sample #:	SG-V1	SG-V2	SG-V3	SG-V4	SG-V5	SG-V7	SG-V8
Dichlorodifluoromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichlorofluoromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethene (1,1-DCE)		2.08	2.59	2.70	2.88	1.28	3.92	2.50
Dichloromethane (Methylene chloride)		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene(t-1,2-DCE)		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane (1,1-DCA)		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene (c-1,2-DCE)		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (1,1,1-TCA)		29.04	33.28	31.37	37.54	29.47	62.53	44.05
Carbon tetrachloride		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane (1,2-DCA)		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene (TCE)		5.23	4.92	3.57	3.69	8.98	8.54	4.60
1,2-Dichloropropane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dibromomethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane (1,1,2-TCA)		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene (PCE)		37.09	38.28	29.82	34.00	48.62	91.61	57.00
Dibromochloromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1,2-Tetrachloroethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m&p-Xylene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
o-Xylene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromoform		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,3-Trichloroethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

Results reported in ug/L

2/28/94, 10:48 AM [0111.XLW]SUMREP.XLS

# AeroVironment Inc.

## Analytical Results for Geosystem Consultants

Sample date:	01/11/94	01/11/94	01/11/94	01/11/94	01/11/94	01/11/94	01/11/94	
Sample time:	13:58	14:18	14:38	14:57	15:17	15:37	15:55	
Analysis time:	14:03	14:22	14:42	15:02	15:22	15:40	16:00	
Probe depth:	5.00	5.00	5.00	5.00	5.00	5.00	5.00	
Compound	Sample #:	SG-V6	SG-V9	SG-V10	SG-V11	SG-V12	SG-V13	SG-V14
Dichlorodifluoromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichlorofluoromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethene (1,1-DCE)		2.78	<1.0	1.17	1.04	2.60	1.35	1.27
Dichloromethane (Methylene chloride)		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene(t-1,2-DCE)		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane (1,1-DCA)		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene (c-1,2-DCE)		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (1,1,1-TCA)		46.01	46.91	51.27	51.09	58.60	43.93	46.92
Carbon tetrachloride		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane (1,2-DCA)		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene (TCE)		8.91	20.26	11.24	3.63	6.67	4.79	4.02
1,2-Dichloropropane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dibromomethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane (1,1,2-TCA)		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene (PCE)		65.65	59.07	67.01	128.37	97.91	78.19	85.62
Dibromochloromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1,2-Tetrachloroethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m&p-Xylene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
o-Xylene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromoform		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,3,-Trichloroethane								
1,3-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

Results reported in ug/L

2/28/94, 10:48 AM [0111.XLW]SUMREP.XLS

# Soil Vapor Sample Collection Log

Project name: Geosystem Consultants

Analysis date: 01/12/94

Project#: 300677

Sample Number	Syringe Number	Sample Time	Probe Depth(ft)	Purge Flow(cc/m)	Purge Vacuum	Purge Vol(cc)	Sampled By	Comments
SG-V7.1	26	11:21	5	NA	NA	40	KJ/BH	
SG-V15	2	11:44	5	NA	NA	40	KJ/BH	
SG-V16	10	12:03	5	NA	NA	40	KJ/BH	
SG-V17	30	12:22	5	NA	NA	40	KJ/BH	
SG-V18A	22	12:40	5	NA	NA	20	KJ/BH	
SG-V18B	20	12:59	5	NA	NA	40	KJ/BH	
SG-V18C	1	13:18	5	NA	NA	60	KJ/BH	
SG-V19	17	13:35	5	NA	NA	40	KJ/BH	
SG-V20	6	13:55	5	NA	NA	40	KJ/BH	
SG-V21	4	14:15	5	NA	NA	40	KJ/BH	
SG-V12.1	9	14:55	15	NA	NA	60	KJ/BH	
SG-V12.1D	9	14:55	15	NA	NA	60	KJ/BH	
SG-V7.2	32	15:42	15	NA	NA	60	KJ/BH	
SG-V7.2D	32	15:42	15	NA	NA	60	KJ/BH	
SG-V11.1	8	16:20	15	NA	NA	60	KJ/BH	
SG-V11.1D	8	16:20	15	NA	NA	60	KJ/BH	
SG-V9.1	10	17:00	15	NA	NA	60	KJ/BH	
SG-V BACKGROUND	41	17:16	5	NA	NA	40	KJ/BH	
SG-V12.2	3	17:40	5	NA	NA	40	KJ/BH	
SG-V11.2	25	17:58	5	NA	NA	40	KJ/BH	
SG-V7.3	7	18:15	5	NA	NA	40	KJ/BH	

# AeroVironment Inc.

## Analytical Results for Geosystem Consultants

	Sample date:	01/12/94	01/12/94	01/12/94	01/12/94	01/12/94	01/12/94	01/12/94
	Sample time:	11:21	11:44	12:03	12:22	12:40	12:59	13:18
	Analysis time:	11:29	11:47	12:08	12:27	12:47	13:06	13:25
	Probe depth:	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Compound	Sample #:	SG-V7.1	SG-V15	SG-V16	SG-V17	SG-V18A	SG-V18B	SG-V18C
Dichlorodifluoromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichlorofluoromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethene (1,1-DCE)		2.94	<1.0	<1.0	1.04	1.88	3.07	2.79
Dichloromethane (Methylene chloride)		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene(t-1,2-DCE)		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane (1,1-DCA)		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene (c-1,2-DCE)		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (1,1,1-TCA)		52.92	10.33	11.85	16.13	16.80	26.78	23.26
Carbon tetrachloride		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane (1,2-DCA)		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene (TCE)		4.94	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dibromomethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane (1,1,2-TCA)		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene (PCE)		95.95	6.21	4.54	4.45	5.08	6.15	5.22
Dibromochloromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1,2-Tetrachloroethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m&p-Xylene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
o-Xylene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromoform		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,3,-Trichloroethane								
1,3-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

Results reported in ug/L

2/28/94, 11:26 AM [0112.XLW]SUMREP.XLS



# AeroVironment Inc.

## Analytical Results for Geosystem Consultants

	Sample date:	01/12/94	01/12/94	01/12/94	01/12/94	01/12/94	01/12/94	01/12/94
	Sample time:	13:35	13:55	14:15	14:55	14:55	15:42	15:42
	Analysis time:	13:44	14:04	14:23	15:02	15:22	15:45	16:06
	Probe depth:	5.00	5.00	5.00	15.00	15.00	15.00	15.00
Compound	Sample #:	SG-V19	SG-V20	SG-V21	SG-V12.1	SG-V12.1D	SG-V7.2	SG-V7.2D
Dichlorodifluoromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichlorofluoromethane		<1.0	<1.0	<1.0	<1.0	<1.0	4.19	2.14
1,1-Dichloroethene (1,1-DCE)		2.34	2.58	1.68	3.32	<1.0	<1.0	<1.0
Dichloromethane (Methylene chloride)		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene(t-1,2-DCE)		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane (1,1-DCA)		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene (c-1,2-DCE)		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (1,1,1-TCA)		21.31	24.69	14.83	52.59	20.61	55.12	19.86
Carbon tetrachloride		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane (1,2-DCA)		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene (TCE)		<1.0	<1.0	<1.0	5.08	<1.0	7.52	1.46
1,2-Dichloropropane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dibromomethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane (1,1,2-TCA)		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene (PCE)		5.52	5.29	5.14	52.98	6.02	63.97	12.30
Dibromochloromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1,2-Tetrachloroethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m&p-Xylene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
o-Xylene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromoform		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,3-Trichloroethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

Results reported in ug/L

2/28/94, 11:26 AM [0112.XLW]SUMREP.XLS

# AeroVironment Inc.

## Analytical Results for Geosystem Consultants

	Sample date:	01/12/94	01/12/94	01/12/94	01/12/94	01/12/94	01/12/94	01/12/94
	Sample time:	16:20	16:20	17:00	17:16	17:40	17:58	18:15
	Analysis time:	16:25	16:44	17:03	17:21	17:43	18:04	18:22
	Probe depth:	15.00	15.00	15.00	5.00	5.00	5.00	5.00
Compound	Sample #:	SG-V11.1	SG-V11.1D	SG-V9.1	SG-V BACKGROUND	SG-V12.2	SG-V11.2	SG-V7.3
Dichlorodifluoromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichlorofluoromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethene (1,1-DCE)		1.05	<1.0	1.73	1.18	0.98	<1.0	1.95
Dichloromethane (Methylene chloride)		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene(t-1,2-DCE)		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane (1,1-DCA)		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene (c-1,2-DCE)		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (1,1,1-TCA)		28.35	17.51	47.62	10.34	22.53	26.08	36.51
Carbon tetrachloride		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane (1,2-DCA)		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene (TCE)		2.88	1.91	18.44	<1.0	2.61	1.68	2.52
1,2-Dichloropropane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dibromomethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane (1,1,2-TCA)		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene (PCE)		39.30	33.87	76.02	3.35	73.49	141.28	32.74
Dibromochloromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1,2-Tetrachloroethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m&p-Xylene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
o-Xylene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromoform		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,3,-Trichloroethane								
1,3-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

Results reported in ug/L

2/28/94, 11:26 AM [0112.XLW]SUMREP.XLS

Attachment 2

FIELD QC DATA SHEETS

## Soil Vapor Calibration Log

Project name: Geosystem Consultants

Analysis date: 01/11/94

Project#: 300677

Sample Number	Sample Type	Syringe Number	Sample Date	Sample Time	Sampled By	Comments
EB-1	EB1	0	01/11/94	NA	KJ/BH	
MID STANDARD 1	RM1	Hamilton 1uL	01/11/94	NA	Jay	
QC STANDARD 1	RM2	Hamilton 1uL	01/11/94	NA	Jay	
QC STANDARD 2	RM3	Hamilton 1uL	01/11/94	NA	Jay	

**AeroVironment Inc.**
**QC Results for Geosystem Consultants**

Compound	Sample date: 01/11/94 Sample time: NA Analysis date: 01/11/94 Sample ID: EB-1			01/11/94 NA 01/11/94 MID STANDARD 1			01/11/94 NA 01/11/94 QC STANDARD 1			01/11/94 NA 01/11/94 QC STANDARD 2		
	Reference	diff		Reference	%diff		Reference	%diff		Reference	%diff	
Dichlorodifluoromethane	<1.0	0.0	0.0	10.2	10.0	2.0	<1.0			11.4	10.0	14.3
Chloromethane	<1.0	0.0	0.0	9.8	10.0	-2.4	<1.0			10.3	10.0	2.6
Vinyl chloride	<1.0	0.0	0.0	10.0	10.0	-0.3	<1.0			10.3	10.0	3.4
Chloroethane	<1.0	0.0	0.0	8.9	10.0	-11.0	<1.0			11.0	10.0	10.1
Trichlorofluoromethane	<1.0	0.0	0.0	9.3	10.0	-7.3	<1.0			11.4	10.0	14.2
1,1-Dichloroethene (1,1-DCE)	<1.0	0.0	0.0	9.7	10.0	-3.3	23.1	20.0	15.4	10.8	10.0	7.6
Dichloromethane (Methylene chloride)	<1.0	0.0	0.0	9.6	10.0	-4.1	<1.0			11.0	10.0	9.6
trans-1,2-Dichloroethene (t-1,2-DCE)	<1.0	0.0	0.0	9.6	10.0	-4.2	23.8	20.0	18.9	10.6	10.0	6.1
1,1-Dichloroethane (1,1-DCA)	<1.0	0.0	0.0	9.7	10.0	-2.9	<1.0			10.7	10.0	7.4
cis-1,2-Dichloroethene (c-1,2-DCE)	<1.0	0.0	0.0	9.7	10.0	-2.7	22.9	20.0	14.3	10.8	10.0	8.4
Chloroform	<1.0	0.0	0.0	9.7	10.0	-3.0	21.4	20.0	7.2	10.9	10.0	8.7
1,1,1-Trichloroethane (1,1,1-TCA)	<1.0	0.0	0.0	9.9	10.0	-1.3	21.3	20.0	6.3	10.6	10.0	6.4
Carbon tetrachloride	<1.0	0.0	0.0	9.8	10.0	-2.1	20.8	20.0	3.9	10.6	10.0	6.2
Benzene	<1.0	0.0	0.0	9.5	10.0	-5.0	21.5	20.0	7.5	9.8	10.0	-1.7
1,2-Dichloroethane (1,2-DCA)	<1.0	0.0	0.0	9.8	10.0	-1.9	23.2	20.0	16.1	10.6	10.0	6.3
Trichloroethene (TCE)	<1.0	0.0	0.0	9.7	10.0	-3.2	23.3	20.0	16.7	10.6	10.0	6.0
1,2-Dichloropropane	<1.0	0.0	0.0	9.8	10.0	-2.3	21.1	20.0	5.6	10.6	10.0	6.3
Dibromomethane	<1.0	0.0	0.0	9.9	10.0	-1.0	<1.0			10.4	10.0	3.6
Bromodichloromethane	<1.0	0.0	0.0	9.7	10.0	-2.7	20.7	20.0	3.7	10.7	10.0	6.9
cis-1,3-Dichloropropene	<1.0	0.0	0.0	9.8	10.0	-2.4	<1.0			10.7	10.0	7.2
Toluene	<1.0	0.0	0.0	9.5	10.0	-5.0	20.9	20.0	4.6	9.9	10.0	-1.2
trans-1,3-Dichloropropene	<1.0	0.0	0.0	9.8	10.0	-2.3	<1.0			10.8	10.0	8.4
1,1,2-Trichloroethane (1,1,2-TCA)	<1.0	0.0	0.0	9.8	10.0	-1.8	<1.0			11.1	10.0	10.6
Tetrachloroethene (PCE)	<1.0	0.0	0.0	9.8	10.0	-1.6	21.4	20.0	6.8	10.9	10.0	9.5
Dibromochloromethane	<1.0	0.0	0.0	9.8	10.0	-2.3	20.9	20.0	4.7	10.7	10.0	7.0
Chlorobenzene	<1.0	0.0	0.0	9.5	10.0	-5.0	20.4	20.0	2.0	9.9	10.0	-1.3
1,1,1,2-Tetrachloroethane	<1.0	0.0	0.0	9.6	10.0	-3.8	<1.0			11.0	10.0	9.7
Ethylbenzene	<1.0	0.0	0.0	9.5	10.0	-5.3	20.2	20.0	1.2	9.9	10.0	-1.1
m&p-Xylene	<1.0	0.0	0.0	9.4	10.0	-5.8	20.0	20.0	0.0	9.8	10.0	-1.9
o-Xylene	<1.0	0.0	0.0	9.4	10.0	-5.7	23.3	20.0	16.4	9.8	10.0	-1.7
Bromoform	<1.0	0.0	0.0	9.6	10.0	-4.1	21.0	20.0	5.2	10.5	10.0	4.7
1,1,2,2-Tetrachloroethane												
Bromobenzene	<1.0	0.0	0.0	9.4	10.0	-5.6	<1.0			9.8	10.0	-1.6
1,2,3,-Trichloroethane												
1,3-Dichlorobenzene	<1.0	0.0	0.0	9.4	10.0	-5.5	<1.0			9.7	10.0	-2.9
1,4-Dichlorobenzene	<1.0	0.0	0.0	9.4	10.0	-5.5	19.1	20.0	-4.3	9.7	10.0	-3.0
1,2-Dichlorobenzene	<1.0	0.0	0.0	9.3	10.0	-7.3	18.7	20.0	-6.5	9.5	10.0	-4.7

Results reported in ug/L

## Soil Vapor Calibration Log

Project name: Geosystem Consultants

Analysis date: 01/12/94

Project#: 300677

Sample Number	Sample Type	Syringe Number	Sample Date	Sample Time	Sampled By	Comments
EB-1A	EB1	28	01/12/94	NA	KJ/BH	
MID STANDARD 1	RM1	Hamilton 1uL	01/12/94	NA	Jay	
QC STANDARD 1	RM2	Hamilton 1uL	01/12/94	NA	Jay	
QC STANDARD 2	RM3	Hamilton 1uL	01/12/94	NA	Jay	

## AeroVironment Inc.

## QC Results for Geosystem Consultants

Sample date:	01/12/94			01/12/94			01/12/94			01/12/94		
Sample time:	NA			NA			NA			NA		
Analysis date:	01/12/94			01/12/94			01/12/94			01/12/94		
Sample ID:	EB-1A			MID STANDARD 1			QC STANDARD 1			QC STANDARD 2		
Compound	Reference	diff		Reference	%diff		Reference	%diff		Reference	%diff	
Dichlorodifluoromethane	<1.0	0.0	0.0	8.4	10.0	-9.9	<1.0			9.7	10.0	-3.1
Chloromethane	<1.0	0.0	0.0	7.3	10.0	-27.0	<1.0			7.2	10.0	-27.4
Vinyl chloride	<1.0	0.0	0.0	7.7	10.0	-23.4	<1.0			7.6	10.0	-24.4
Chloroethane	<1.0	0.0	0.0	8.2	10.0	-17.8	<1.0			8.8	10.0	-11.6
Trichlorofluoromethane	<1.0	0.0	0.0	9.0	10.0	-9.7	<1.0			9.8	10.0	-1.8
1,1-Dichloroethene (1,1-DCE)	<1.0	0.0	0.0	8.7	10.0	-13.0	23.9	20.0	19.7	8.7	10.0	-12.6
Dichloromethane (Methylene chloride)	<1.0	0.0	0.0	9.3	10.0	-7.1	<1.0			9.4	10.0	-5.6
trans-1,2-Dichloroethene(t-1,2-DCE)	<1.0	0.0	0.0	8.8	10.0	-12.1	24.9	20.0	20.0	8.7	10.0	-13.1
1,1-Dichloroethane (1,1-DCA)	<1.0	0.0	0.0	9.6	10.0	-4.2	<1.0			9.7	10.0	-2.8
cis-1,2-Dichloroethene (c-1,2-DCE)	<1.0	0.0	0.0	9.6	10.0	-3.9	24.6	20.0	20.0	9.8	10.0	-2.4
Chloroform	<1.0	0.0	0.0	9.9	10.0	-0.6	23.6	20.0	18.0	10.2	10.0	1.7
1,1,1-Trichloroethane (1,1,1-TCA)	<1.0	0.0	0.0	9.7	10.0	-2.8	23.0	20.0	15.0	9.6	10.0	-3.6
Carbon tetrachloride	<1.0	0.0	0.0	9.5	10.0	-4.8	22.2	20.0	11.2	9.5	10.0	-4.7
Benzene	<1.0	0.0	0.0	8.6	10.0	-13.6	20.8	20.0	3.9	8.4	10.0	-15.9
1,2-Dichloroethane (1,2-DCA)	<1.0	0.0	0.0	9.7	10.0	-3.0	25.1	20.0	20.0	9.8	10.0	-2.4
Trichloroethene (TCE)	<1.0	0.0	0.0	9.5	10.0	-5.2	24.7	20.0	20.0	9.6	10.0	-4.3
1,2-Dichloropropane	<1.0	0.0	0.0	9.8	10.0	-1.5	22.8	20.0	13.8	9.9	10.0	-1.0
Dibromomethane	<1.0	0.0	0.0	9.7	10.0	-3.4	<1.0			8.7	10.0	-13.1
Bromodichloromethane	<1.0	0.0	0.0	10.0	10.0	-0.3	22.4	20.0	11.9	9.4	10.0	-6.2
cis-1,3-Dichloropropene	<1.0	0.0	0.0	9.9	10.0	-1.4	<1.0			9.8	10.0	-2.2
Toluene	<1.0	0.0	0.0	8.8	10.0	-11.8	20.4	20.0	2.0	8.6	10.0	-14.2
trans-1,3-Dichloropropene	<1.0	0.0	0.0	9.9	10.0	-0.9	<1.0			10.1	10.0	1.5
1,1,2-Trichloroethane (1,1,2-TCA)	<1.0	0.0	0.0	10.3	10.0	2.7	<1.0			10.5	10.0	4.5
Tetrachloroethene (PCE)	<1.0	0.0	0.0	9.6	10.0	-3.7	22.5	20.0	12.3	9.8	10.0	-2.3
Dibromochloromethane	<1.0	0.0	0.0	10.1	10.0	0.7	22.2	20.0	11.0	10.0	10.0	-0.3
Chlorobenzene	<1.0	0.0	0.0	9.0	10.0	-9.6	20.3	20.0	1.3	8.9	10.0	-11.3
1,1,1,2-Tetrachloroethane	<1.0	0.0	0.0	10.1	10.0	1.5	<1.0			10.3	10.0	3.4
Ethylbenzene	<1.0	0.0	0.0	9.0	10.0	-9.9	20.1	20.0	0.3	8.8	10.0	-11.6
m&p-Xylene	<1.0	0.0	0.0	8.9	10.0	-10.5	19.7	20.0	-1.4	8.8	10.0	-11.9
o-Xylene	<1.0	0.0	0.0	9.0	10.0	-10.2	23.1	20.0	15.4	8.8	10.0	-11.8
Bromoform	<1.0	0.0	0.0	9.7	10.0	-2.5	22.5	20.0	12.6	9.9	10.0	-1.0
1,1,2,2-Tetrachloroethane	<1.0	0.0	0.0	9.0	10.0	-9.6	<1.0			8.9	10.0	-11.1
Bromobenzene	<1.0	0.0	0.0	9.0	10.0	-9.9	<1.0			8.9	10.0	-10.6
1,2,3-Trichloroethane	<1.0	0.0	0.0	9.0	10.0	-10.2	19.0	20.0	-5.0	8.9	10.0	-10.7
1,3-Dichlorobenzene	<1.0	0.0	0.0	9.0	10.0	-9.9	18.8	20.0	-6.1	8.9	10.0	-11.1
1,4-Dichlorobenzene	<1.0	0.0	0.0	9.0	10.0	-9.9						
1,2-Dichlorobenzene	<1.0	0.0	0.0	9.0	10.0	-9.9						

Results reported in ug/L

Attachment 3

**SECOND COLUMN CONFIRMATION**



# AeroVironment Inc.

## Second Column Confirmation

Sample ID: SG-7.1  
Project name: Geosystem Consultants  
Project #: 300677  
Analysis: 8010/8020  
Lab ID: Y-Truck

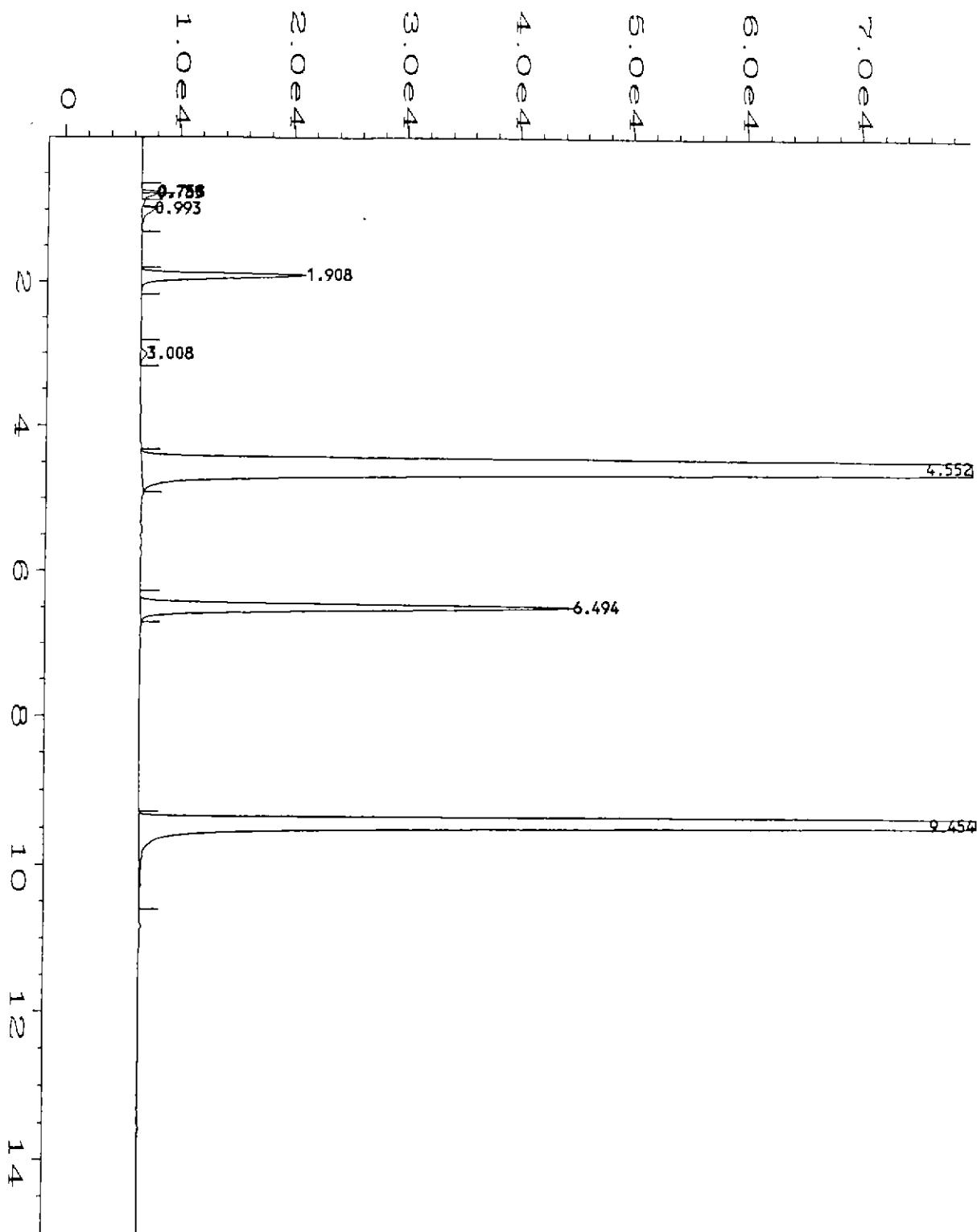
Sample date: 01/13/94  
Analysis date: 01/18/94  
Analysis time: 16:48  
GC ID: GC/PID/HALL  
Calibration date: 01/18/94

### Compound

1,1-Dichloroethene (1,1-DCE)  
1,1,1-Trichloroethane (1,1,1-TCA)  
Trichloroethene (TCE)  
Tetrachloroethene (PCE)

Attachment 4

CHROMATOGRAMS  
SOIL VAPOR SAMPLES



Data File Name : C:\HPCHEM\2\DATA\NV-F2412.D  
 Operator : JAY BERGER  
 Instrument : A / D (EL  
 Sample Name : SG-V7  
 Run Time Bar Code:  
 Acquired on : 11 Jan 94 01:24 PM  
 Report Created on: 11 Jan 94 01:39 PM  
 Sample Info :

Page Number : 1  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

=====  
Area Percent Report  
=====

Data File Name : C:\HPCHEM\2\DATA\NV-F2412.D  
Operator : JAY BERGER  
Instrument : A / D (EL  
Sample Name : SG-V7  
Run Time Bar Code:  
Acquired on : 11 Jan 94 01:24 PM  
Report Created on: 11 Jan 94 01:39 PM  
Sample Info :

Page Number : 1  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\2\DATA\NV-F2412.D  
Operator : JAY BERGER  
Instrument : A / D (EL  
Sample Name : SG-V7  
Run Time Bar Code:  
Acquired on : 11 Jan 94 01:24 PM  
Report Created on: 11 Jan 94 01:39 PM

Page Number : 2  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\2\DATA\NV-F2412.D  
 Operator : JAY BERGER  
 Instrument : A / D (EL  
 Sample Name : SG-V7  
 Run Time Bar Code:  
 Acquired on : 11 Jan 94 01:24 PM  
 Report Created on: 11 Jan 94 01:39 PM

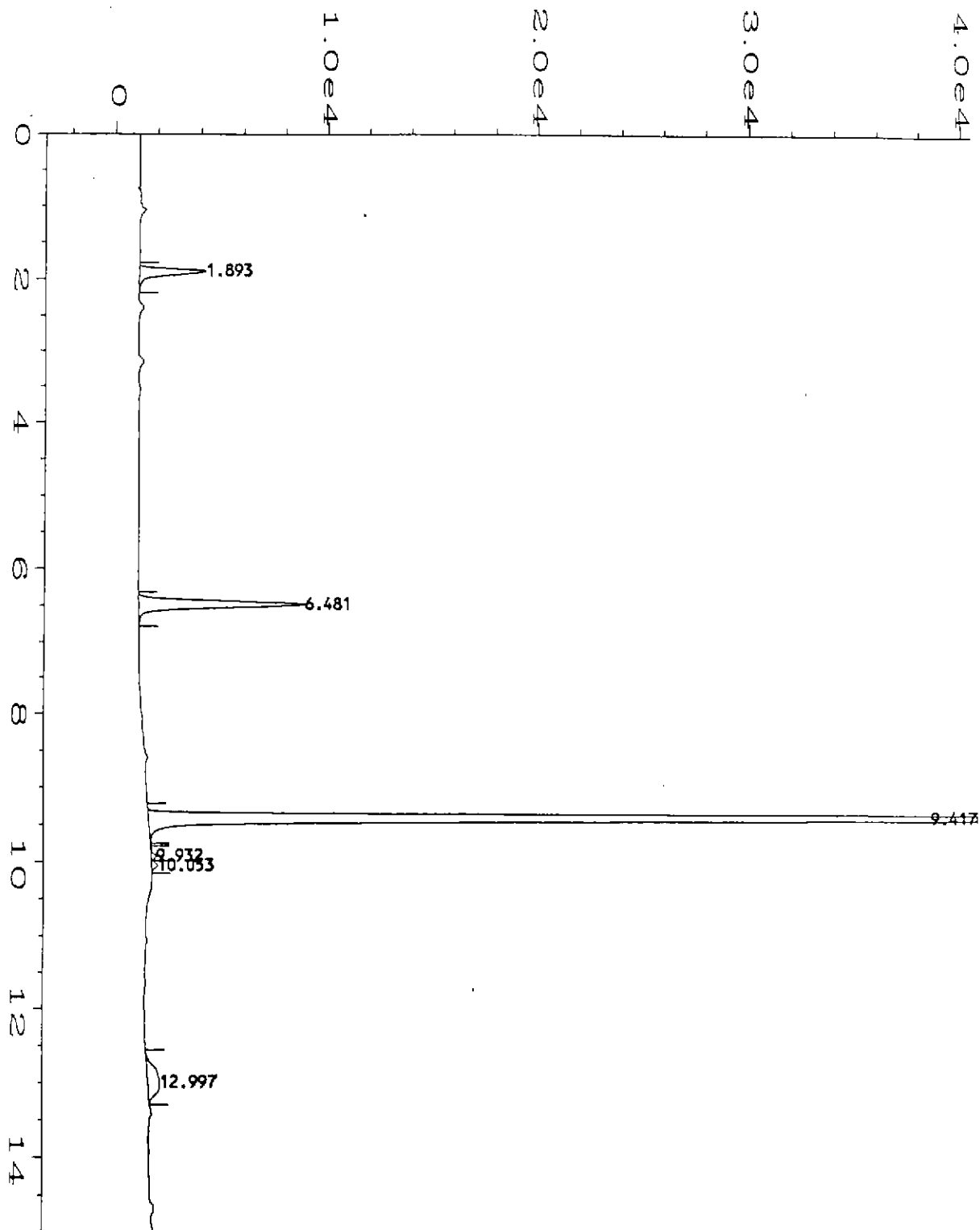
Page Number : 3  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Sig. 1 in C:\HPCHEM\2\DATA\NV-F2412.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.758	2556	1412	BV	0.032	0.0181
2	0.785	4344	1284	VV	0.056	0.0307
3	0.993	6441	1140	VB	0.074	0.0455
4	1.908	71764	14399	BV	0.080	0.5073
5	3.008	3565	542	BV	0.088	0.0252
6	4.552	1884912	205215	VV	0.142	13.3257
7	6.494	224724	37686	BV	0.094	1.5887
8	9.454	1.19467E+007	2401732	BB S	0.082	84.4588

Total area = 1.4145E+007

=====



Data File Name : C:\HPCHEM\1\DATA\NV-F2412.D  
Operator : JAY BERGER  
Instrument : 5890 PID  
Sample Name : SG-V7  
Run Time Bar Code:  
Acquired on : 11 Jan 94 01:24 PM  
Report Created on: 11 Jan 94 01:39 PM  
Sample Info :

Page Number : 1  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

=====  
Area Percent Report  
=====

Data File Name : C:\HPCHEM\1\DATA\NV-F2412.D  
Operator : JAY BERGER  
Instrument : 5890 PID  
Sample Name : SG-V7  
Run Time Bar Code:  
Acquired on : 11 Jan 94 01:24 PM  
Report Created on: 11 Jan 94 01:39 PM  
Sample Info :

Page Number : 1  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH



● Data File Name : C:\HPCHEM\1\DATA\NV-F2412.D  
Operator : JAY BERGER  
Instrument : 5890 PID  
Sample Name : SG-V7  
Run Time Bar Code:  
Acquired on : 11 Jan 94 01:24 PM  
Report Created on: 11 Jan 94 01:39 PM

Page Number : 2  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\1\DATA\NV-F2412.D  
Operator : JAY BERGER  
Instrument : 5890 PID  
Sample Name : SG-V7  
Run Time Bar Code:  
Acquired on : 11 Jan 94 01:24 PM  
Report Created on: 11 Jan 94 01:39 PM

Page Number : 3  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

Sig. 1 in C:\HPCHEM\1\DATA\NV-F2412.D

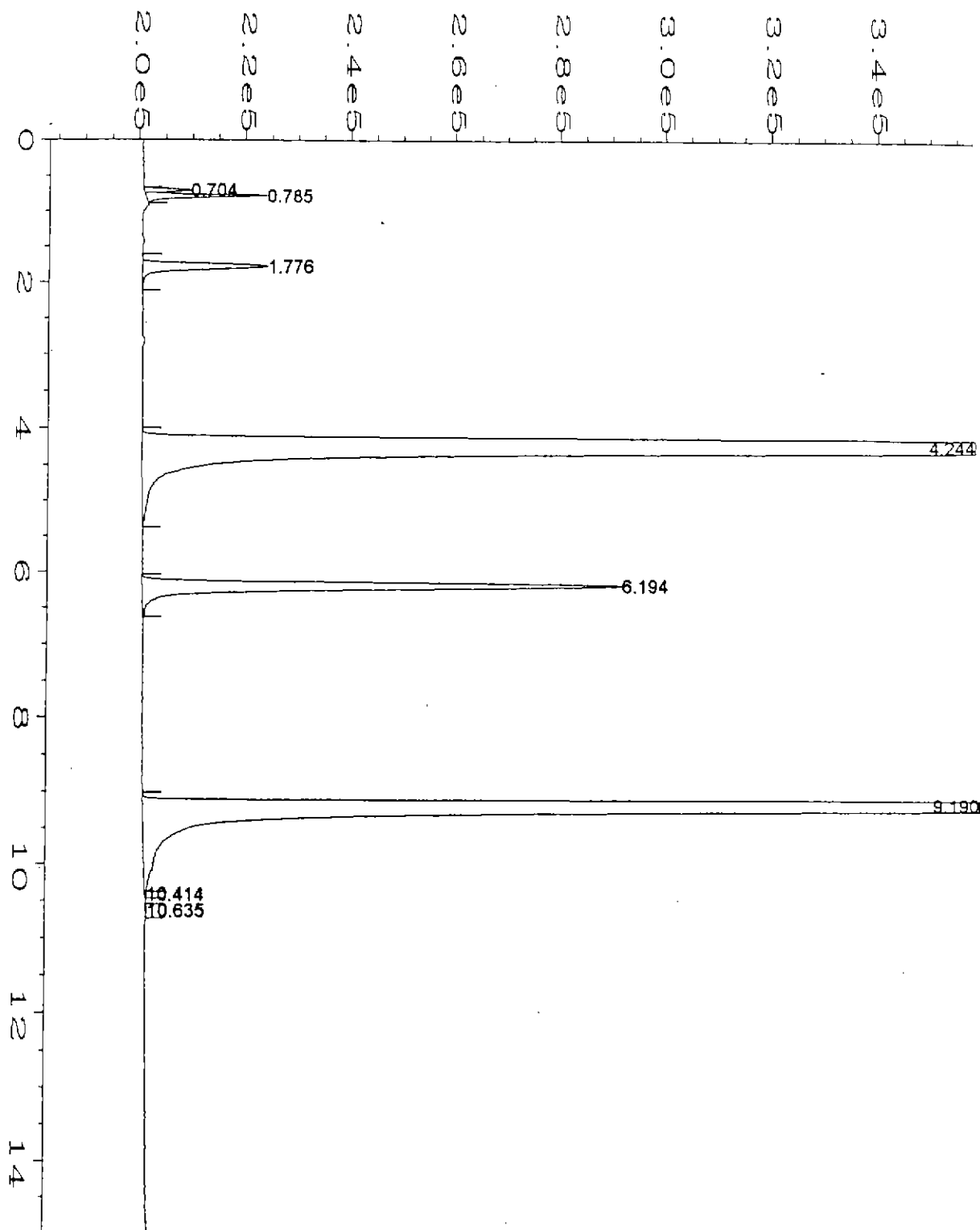
Pk#	Ret Time	Area	Height	Type	Width	Area %
1	1.893	17197	3125	BB	0.087	3.5753
2	6.481	48801	7769	BB	0.098	10.1458
3	9.417	399315	86615	BB	0.072	83.0176
4	9.932	1228	242	BV	0.076	0.2553
5	10.053	1434	281	VB	0.079	0.2980
6	12.997	13025	554	BV	0.320	2.7080

Total area = 481001

=====

Attachment 5

CHROMATOGRAMS  
SOIL VAPOR CONFIRMATION SAMPLE SG-V71



Data File Name : C:\HPCHEM\1\DATA\NV-F0112.D  
 Operator : STEVE CHAN  
 Instrument : TRAILER 2  
 Sample Name : GEOSYSTEM 7.1  
 Run Time Bar Code:  
 Acquired on : 18 Jan 94 04:48 PM  
 Report Created on: 18 Jan 94 05:04 PM  
 Sample Info : SECOND COLUMN CONFIRMATION  
 sg7.1

Page Number : 1  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

# Area Percent Report

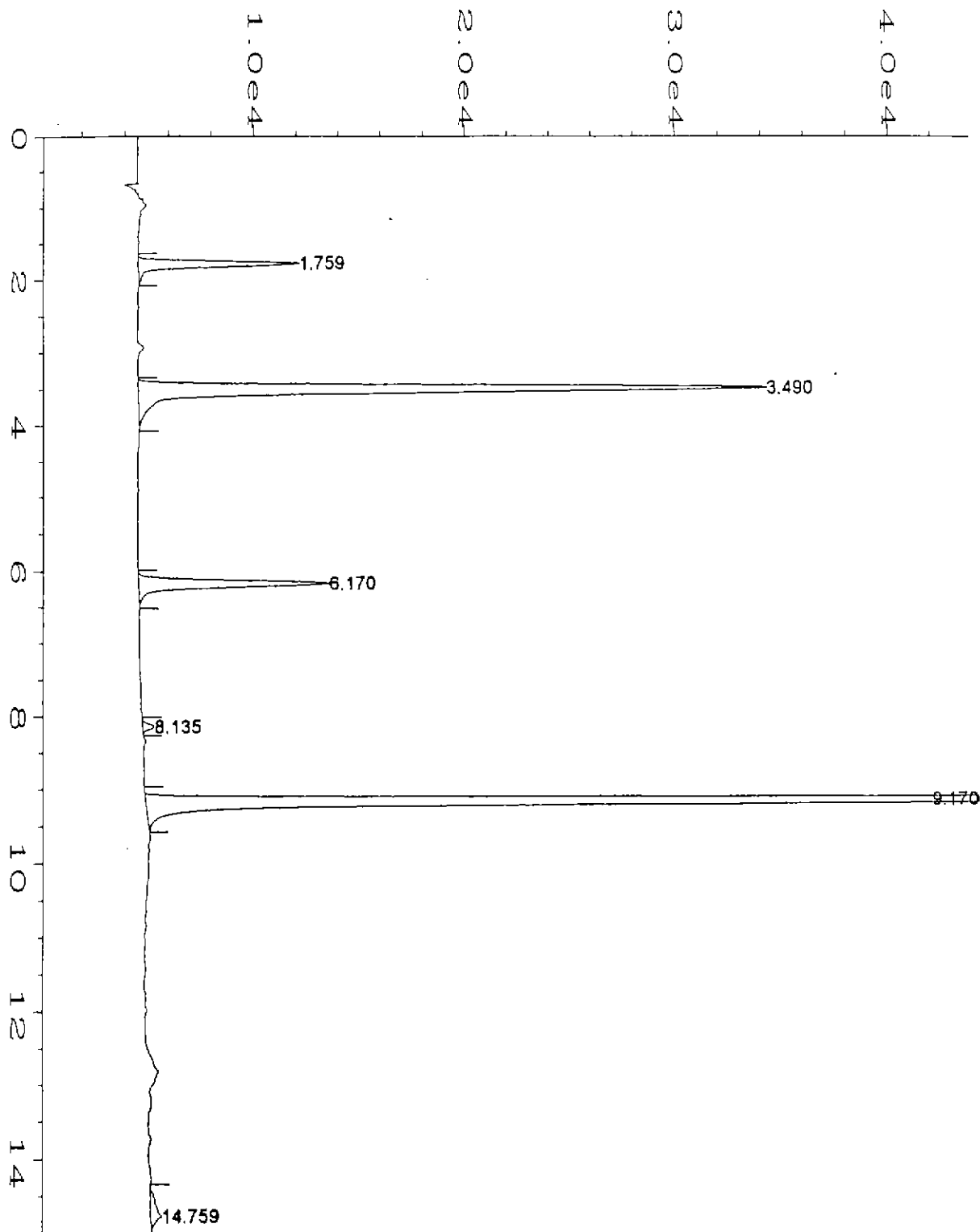
File Name : C:\HPCHEM\1\DATA\NV-F0112.D  
 Operator : STEVE CHAN  
 Instrument : TRAILER 2  
 Sample Name : GEOSYSTEM 7.1  
 Run Time Bar Code:  
 Acquired on : 18 Jan 94 04:48 PM  
 Report Created on: 18 Jan 94 05:04 PM  
 Sample Info : SECOND COLUMN CONFIRMATION  
 sg7.1

Page Number : 1  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Sig. 1 in C:\HPCHEM\1\DATA\NV-F0112.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.704	23772	8756	PV	0.042	0.1514
2	0.785	68405	22765	VV	0.045	0.4355
3	1.776	129279	23545	BB	0.086	0.8231
4	4.244	4978203	565504	BV	0.134	31.6963
5	6.194	592953	90659	BV	0.103	3.7753
6	9.190	9909190	1931072	PV	0.078	63.0919
7	10.414	1639	402	VV	0.068	0.0104
8	10.635	2513	370	VV	0.088	0.0160

Total area = 1.5706E+007



Data File Name : C:\HPCHEM\1\DATA\NV-R0112.D  
 Operator : STEVE CHAN  
 Instrument : TRAILER 2  
 Sample Name : GEOSYSTEM 7.1  
 Run Time Bar Code:  
 Acquired on : 18 Jan 94 04:48 PM  
 Report Created on: 18 Jan 94 05:05 PM  
 Sample Info : SECOND COLUMN CONFIRMATION  
 sg7.1

Page Number : 1  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

=====

Area Percent Report

=====

File Name : C:\HPCHEM\1\DATA\NV-R0112.D  
 Operator : STEVE CHAN  
 Instrument : TRAILER 2  
 Sample Name : GEOSYSTEM 7.1  
 Run Time Bar Code:  
 Acquired on : 18 Jan 94 04:48 PM  
 Report Created on: 18 Jan 94 05:05 PM  
 Sample Info : SECOND COLUMN CONFIRMATION  
               sg7.1

Page Number : 1  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Fig. 2 in C:\HPCHEM\1\DATA\NV-R0112.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	1.759	41920	7553	BB	0.089	4.7503
2	3.490	207095	29575	BB	0.108	23.4674
3	6.170	59059	8921	BB	0.103	6.6924
4	8.135	2795	549	BB	0.082	0.3167
5	9.170	564511	121412	BB	0.072	63.9689
6	14.759	7098	497	BBA	0.180	0.8043

Total area = 882477

=====





**APPENDIX B**



2852 Alton Ave., Irvine, CA 92714  
1014 E. Cooley Dr., Suite A, Colton, CA 92324  
16525 Sherman Way, Suite C-11, Van Nuys, CA 91406  
943 South 48th St., Suite 114, Tempe, AZ 85281

(714) 261-1022 FAX (714) 261-1228  
(909) 370-4667 FAX (909) 370-1046  
(818) 779-1844 FAX (818) 779-1843  
(602) 968-8272 FAX (602) 968-1338

Geosystem Consultants, Inc.  
18218 McDermott East, Suite G  
Irvine, CA 92714  
Attention: Philip Miller

Client Project ID: 93-513  
Sprayco/Bellaire Lighting-North Hollywood  
Sample Descript: Soil, BG-1; 3"-9"  
Lab Number: DB00331

Sampled: Feb 2, 1994  
Received: Feb 3, 1994  
Analyzed: Feb 4-11, 1994  
Reported: Feb 14, 1994

Analyte	EPA Method	STLC	TTLC	Detection	TTLC
		Max. Limit mg/L (ppm)	Max. Limit mg/Kg (ppm)	Limit mg/Kg (ppm)	Sample Result mg/Kg (ppm)
Antimony	6010	15	500	5.0	N.D.
Arsenic	6010	5	500	1.0	N.D.
Barium	6010	100	10000	0.50	66
Beryllium	6010	0.75	75	0.10	N.D.
Cadmium	6010	1	100	0.10	N.D.
Chromium (VI)	7196	5	500	0.25	N.D.
Chromium (Total)	6010	560	2500	0.50	7.4
Cobalt	6010	80	8000	0.50	4.4
Copper	6010	25	2500	0.50	9.9
Lead	6010	5	1000	1.0	3.2
Mercury	7471	0.2	20	0.075	N.D.
Molybdenum	6010	350	3500	0.50	N.D.
Nickel	6010	20	2000	0.50	5.3
Selenium	6010	1	100	1.0	N.D.
Silver	6010	5	500	0.50	N.D.
Thallium	6010	7	700	5.0	N.D.
Vanadium	6010	24	2400	0.50	19
Zinc	6010	250	5000	0.50	35


RECEIVED

FEB 2 5 1994

GEOSYSTEM  
CONSULTANTS, INC.

Analytes reported as N.D. were not present above the stated limit of detection.

DEL MAR ANALYTICAL, IRVINE (ELAP #1197)

  
Gary Steube  
Laboratory Director

DB00331.GEO <1 of 5>



2852 Alton Ave., Irvine, CA 92714

(714) 261-1022 FAX (714) 261-1228

1014 E. Cooley Dr., Suite A, Colton, CA 92324

(909) 370-4667 FAX (909) 370-1046

16525 Sherman Way, Suite C-11, Van Nuys, CA 91406

(818) 779-1844 FAX (818) 779-1843

943 South 48th St., Suite 114, Tempe, AZ 85281

(602) 968-8272 FAX (602) 968-1338

Geosystem Consultants, Inc.  
18218 McDermott East, Suite G  
Irvine, CA 92714  
Attention: Philip Miller

Client Project ID: 93-513

Sample Descript: Soil, SB-5; 3"-9"


Lab Number: DB00332

Sampled: Feb 2, 1994  
Received: Feb 3, 1994  
Analyzed: Feb 4-11, 1994  
Reported: Feb 14, 1994

Analyte	EPA Method	STLC	TTL	Detection	TTL
		Max. Limit mg/L (ppm)	Max. Limit mg/Kg (ppm)	Limit mg/Kg (ppm)	Sample Result mg/Kg (ppm)
Antimony	6010	15	500	5.0	N.D.
Arsenic	6010	5	500	1.0	N.D.
Barium	6010	100	10000	0.50	72
Beryllium	6010	0.75	75	0.10	N.D.
Cadmium	6010	1	100	0.10	0.55
Chromium (VI)	7196	5	500	0.25	N.D.
Chromium (Total)	6010	560	2500	0.50	4.8
Cobalt	6010	80	8000	0.50	2.3
Copper	6010	25	2500	0.50	15
Lead	6010	5	1000	1.0	45
Mercury	7471	0.2	20	0.075	0.11
Molybdenum	6010	350	3500	0.50	N.D.
Nickel	6010	20	2000	0.50	3.5
Selenium	6010	1	100	1.0	N.D.
Silver	6010	5	500	0.50	N.D.
Thallium	6010	7	700	5.0	N.D.
Vanadium	6010	24	2400	0.50	11
Zinc	6010	250	5000	0.50	40

Analytes reported as N.D. were not present above the stated limit of detection.

DEL MAR ANALYTICAL, IRVINE (ELAP #1197)

  
Gary Steube  
Laboratory Director

DB00331.GEO &lt;2 of 5&gt;



2852 Alton Ave., Irvine, CA 92714

(714) 261-1022 FAX (714) 261-1228

1014 E. Cooley Dr., Suite A, Colton, CA 92324

(909) 370-4667 FAX (909) 370-1046

16525 Sherman Way, Suite C-11, Van Nuys, CA 91406

(818) 779-1844 FAX (818) 779-1843

943 South 48th St., Suite 114, Tempe, AZ 85281

(602) 968-8272 FAX (602) 968-1338

Geosystem Consultants, Inc.  
18218 McDermott East, Suite G  
Irvine, CA 92714  
Attention: Philip Miller

Client Project ID: 93-513  
Sprayco/Bellaire Lighting-North Hollywood  
Sample Descript: Soil, SB-6; 3"-9"  
Lab Number: DB00333

Sampled: Feb 2, 1994  
Received: Feb 3, 1994  
Analyzed: Feb 4-11, 1994  
Reported: Feb 14, 1994

Analyte	EPA Method	STLC	TTLIC	Detection	TTLIC
		Max. Limit mg/L (ppm)	Max. Limit mg/Kg (ppm)	Limit mg/Kg (ppm)	Sample Result mg/Kg (ppm)
Antimony	6010	15	500	5.0	N.D.
Arsenic	6010	5	500	1.0	N.D.
Barium	6010	100	10000	0.50	110
Beryllium	6010	0.75	75	0.10	N.D.
Cadmium	6010	1	100	0.10	13
Chromium (VI)	7196	5	500	0.25	N.D.
Chromium (Total)	6010	560	2500	0.50	81
Cobalt	6010	80	8000	0.50	3.0
Copper	6010	25	2500	0.50	40
Lead	6010	5	1000	1.0	180
Mercury	7471	0.2	20	0.075	0.20
Molybdenum	6010	350	3500	0.50	N.D.
Nickel	6010	20	2000	0.50	9.5
Selenium	6010	1	100	1.0	N.D.
Silver	6010	5	500	0.50	N.D.
Thallium	6010	7	700	5.0	N.D.
Vanadium	6010	24	2400	0.50	11
Zinc	6010	250	5000	0.50	740

Analytes reported as N.D. were not present above the stated limit of detection.

DEL MAR ANALYTICAL, IRVINE (ELAP #1197)

Gary Steube  
Laboratory Director

DB00331.GEO <3 of 5>



2852 Alton Ave., Irvine, CA 92714

(714) 261-1022 FAX (714) 261-1228

1014 E. Cooley Dr., Suite A, Colton, CA 92324

(909) 370-4667 FAX (909) 370-1046

16525 Sherman Way, Suite C-11, Van Nuys, CA 91406

(818) 779-1844 FAX (818) 779-1843

943 South 48th St., Suite 114, Tempe, AZ 85281

(602) 968-8272 FAX (602) 968-1338

Geosystem Consultants, Inc.  
18218 McDermott East, Suite G  
Irvine, CA 92714  
Attention: Philip Miller

Client Project ID: 93-513  
Sprayco/Bellaire Lighting-North Hollywood  
Sample Descript: Soil, SB-7; 3"-9"  
Lab Number: DB00334

Sampled: Feb 2, 1994  
Received: Feb 3, 1994  
Analyzed: Feb 4-11, 1994  
Reported: Feb 14, 1994

Analyte	EPA Method	STLC	TTLC	Detection	TTLC
		Max. Limit mg/L (ppm)	Max. Limit mg/Kg (ppm)	Limit mg/Kg (ppm)	Sample Result mg/Kg (ppm)
Antimony	6010	15	500	5.0	N.D.
Arsenic	6010	5	500	1.0	N.D.
Barium	6010	100	10000	0.50	170
Beryllium	6010	0.75	75	0.10	N.D.
Cadmium	6010	1	100	0.10	N.D.
Chromium (VI)	7196	5	500	0.25	N.D.
Chromium (Total)	6010	560	2500	0.50	15
Cobalt	6010	80	8000	0.50	8.7
Copper	6010	25	2500	0.50	24
Lead	6010	5	1000	1.0	17
Mercury	7471	0.2	20	0.075	0.16
Molybdenum	6010	350	3500	0.50	N.D.
Nickel	6010	20	2000	0.50	9.6
Selenium	6010	1	100	1.0	N.D.
Silver	6010	5	500	0.50	N.D.
Thallium	6010	7	700	5.0	N.D.
Vanadium	6010	24	2400	0.50	29
Zinc	6010	250	5000	0.50	49

Analytes reported as N.D. were not present above the stated limit of detection.

DEL MAR ANALYTICAL, IRVINE (ELAP #1197)

Gary Stelube  
Laboratory Director

DB00331.GEO <4 of 5>



2852 Alton Ave., Irvine, CA 92714 (714) 261-1022 FAX (714) 261-1228  
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046  
16525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843  
943 South 48th St., Suite 114, Tempe, AZ 85281 (602) 968-8272 FAX (602) 968-1338

Geosystem Consultants, Inc.  
18218 McDermott East, Suite G  
Irvine, CA 92714  
Attention: Philip Miller


**Method Blank**

Analyzed: Feb 4-11, 1994  
Reported: Feb 14, 1994  
Matrix: Soil

Analyte	EPA Method	STLC	TTL	Detection	TTL
		Max. Limit mg/L (ppm)	Max. Limit mg/Kg (ppm)	Limit mg/Kg (ppm)	Sample Result mg/Kg (ppm)
Antimony	6010	15	500	5.0	N.D.
Arsenic	6010	5	500	1.0	N.D.
Barium	6010	100	10000	0.50	N.D.
Beryllium	6010	0.75	75	0.10	N.D.
Cadmium	6010	1	100	0.10	N.D.
Chromium (VI)	7196	5	500	0.25	N.D.
Chromium (Total)	6010	560	2500	0.50	N.D.
Cobalt	6010	80	8000	0.50	N.D.
Copper	6010	25	2500	0.50	N.D.
Lead	6010	5	1000	1.0	N.D.
Mercury	7471	0.2	20	0.075	N.D.
Molybdenum	6010	350	3500	0.50	N.D.
Nickel	6010	20	2000	0.50	N.D.
Selenium	6010	1	100	1.0	N.D.
Silver	6010	5	500	0.50	N.D.
Thallium	6010	7	700	5.0	N.D.
Vanadium	6010	24	2400	0.50	N.D.
Zinc	6010	250	5000	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

DEL MAR ANALYTICAL, IRVINE (ELAP #1197)

  
Gary Steube  
Laboratory Director

# GEO SYSTEM

Consultants, Inc.

18218 McDermott East, Suite G, Irvine, California 92714  
(714) 553-8757 • FAX (714) 261-8550

## CHAIN OF CUSTODY RECORD

Project Name Sprayco / Bellaire Lighting  
Project No. 93-513  
Location North Hollywood  
Project Manager Philip Miller  
Sheet 1 of 1 Date February 2, 1993

Analysis										Remarks
* Total Priority Pollutant Metals										Please FAX results when available.  * Title 22  Normal TAJ

Sample Identification	Date Sampled	Time Sampled	Sample Description	Grab	Composite	Number of containers	Total Priority Pollutant Metals	Hold / Archive											
BG-153"-9"	2/2		Soil	X		1	✓												
BG-1518"-24"								✓											
BG-1545'-5'								✓											
SB-533"-9"							✓												
SB-5318"-24"								✓											
SB-5345'-5'								✓											
SB-633"-9"							✓												
SB-6318"-24"								✓											
SB-6345'-5'								✓											
SB-733"-9"							✓												
SB-7318"-24"								✓											
SB-7345'-5'								✓											

Signature	Company	Date	Time
Collected by <u>[Signature]</u>	<u>Geosystem</u>	<u>2-2-94</u>	<u>2:15</u>
Relinquished by <u>[Signature]</u>	<u>"</u>	<u>2-3-94</u>	<u>8:05</u>
Received by <u>[Signature]</u>	<u>"</u>	<u>2-3-94</u>	<u>8:05</u>
Relinquished by <u>[Signature]</u>	<u>"</u>	<u>2-3-94</u>	<u>11:30</u>
Received by <u>[Signature]</u>	<u>Delmar Analytical</u>	<u>2-3-94</u>	<u>11:30</u>
Relinquished by			
Received by			







2852 Alton Ave., Irvine, CA 92714 (714) 261-1022 FAX (714) 261-1228  
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046  
16525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843  
943 South 48th St., Suite 114, Tempe, AZ 85281 (602) 968-8272 FAX (602) 968-1338

Geosystem Consultants, Inc.  
18218 McDermott East, Suite G  
Irvine, CA 92714  
Attention: Philip Miller

Client Project ID: 93-513  
Sprayco/Bellaire Lighting, N. Hollywood  
Sample Descript: Soil, SB-6; 18"-24"  
Lab Number: DC00016

Sampled: Feb 2, 1994  
Received: Feb 3, 1994  
Analyzed: Mar 7-14, 1994  
Reported: Mar 14, 1994

### E.P.A. PRIORITY POLLUTANTS: METALS

Analyte	Detection Limit mg/Kg (ppm)	Sample Result mg/Kg (ppm)
Antimony.....	5.0	N.D.
Arsenic.....	1.0	N.D.
Beryllium.....	0.10	N.D.
Cadmium.....	0.10	3.3
Chromium.....	0.50	37
Copper.....	0.50	16
Lead.....	1.0	8.9
Mercury.....	0.075	N.D.
Nickel.....	0.50	5.7
Selenium.....	1.0	N.D.
Silver.....	0.50	N.D.
Thallium.....	5.0	N.D.
Zinc.....	0.50	180


RECEIVED

MAR 22 1994

GEOSYSTEM  
CONSULTANTS, INC.

Analytes reported as N.D. were not present above the stated limit of detection.

DEL MAR ANALYTICAL, IRVINE (ELAP #1197)

  
Gary Steube  
Laboratory Director

DC00016.GEO <1 of 2>



2852 Alton Ave., Irvine, CA 92714  
1014 E. Cooley Dr., Suite A, Colton, CA 92324  
16525 Sherman Way, Suite C-11, Van Nuys, CA 91406  
943 South 48th St., Suite 114, Tempe, AZ 85281

(714) 261-1022 FAX (714) 261-1228  
(909) 370-4667 FAX (909) 370-1046  
(818) 779-1844 FAX (818) 779-1843  
(602) 968-8272 FAX (602) 968-1338

Geosystem Consultants, Inc.  
18218 McDermott East, Suite G  
Irvine, CA 92714  
Attention: Philip Miller

**Method Blank**


Analyzed: Mar 7-14, 1994  
Reported: Mar 14, 1994  
Matrix: Soil

**E.P.A. PRIORITY POLLUTANTS: METALS**

Analyte	Detection Limit mg/Kg (ppm)	Sample Result mg/Kg (ppm)
Antimony.....	5.0	N.D.
Arsenic.....	1.0	N.D.
Beryllium.....	0.10	N.D.
Cadmium.....	0.10	N.D.
Chromium.....	0.50	N.D.
Copper.....	0.50	N.D.
Lead.....	1.0	N.D.
Mercury.....	0.075	N.D.
Nickel.....	0.50	N.D.
Selenium.....	1.0	N.D.
Silver.....	0.50	N.D.
Thallium.....	5.0	N.D.
Zinc.....	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

DEL MAR ANALYTICAL, IRVINE (ELAP #1197)

  
Gary Steube  
Laboratory Director

## QC DATA REPORT

Date: 3/14/94

Sample #: Blank

METHOD: Metals  
 Instrument: ICP  
 Matrix: SOIL

Analyte

	R1	SP	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppb	ppb	ppb	ppb	%	%	%	%
Arsenic	0	1000	988	997	99%	100%	0.9%	99%
Beryllium	0	1000	1034	997	103%	100%	3.6%	102%
Cadmium	0	1000	1045	1029	105%	103%	1.5%	104%
Chromium	0	1000	1082	988	108%	99%	9.1%	104%
Copper	0	1000	1040	1017	104%	102%	2.2%	103%
Lead	0	1000	1056	1023	106%	102%	3.2%	104%
Nickel	0	1000	1046	975	105%	98%	7.0%	101%
Selenium	0	1000	830	863	83%	86%	3.9%	85%
Silver	0	1000	1098	1041	110%	104%	5.3%	107%
Thallium	0	1000	1069	997	107%	100%	7.0%	103%
Zinc	0	1000	1065	1015	107%	102%	4.8%	104%

R1..... Result of Sample Analysis  
 Sp..... Spike Concentration Added to Sample  
 MS..... Matrix Spike Result  
 MSD..... Matrix Spike Duplicate Result  
 PR1..... Percent Recovery of MS;  $((MS-R1) / SP) \times 100$   
 PR2..... Percent Recovery of MSD;  $((MSD-R1) / SP) \times 100$   
 RPD..... Relative Percent Difference;  $((MS-MSD)/(MS+MSD)/2) \times 100$

Del Mar Analytical

## QC DATA REPORT

EPA METHOD: 7471  
 matrix: soil

DATE: 3/7/94

SAMPLE # DC00016

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppb	ppb	ppb	ppb	%	%	%	%
Mercury	0	8	9.1	9	114%	113%	1.1%	113%

### Definition of Terms:

R1..... Result of Sample Analysis

Sp..... Spike Concentration Added to Sample

MS..... Matrix Spike Result

MSD..... Matrix Spike Duplicate Result

PR1..... Percent Recovery of MS;  $(MS - R1) / SP \times 100$

PR2..... Percent Recovery of MSD;  $((MSD - R1) / SP \times 100)$

RPD..... Relative Percent Difference;  $((MS - MSD) / ((MS + MSD) / 2)) \times 100$

Del Mar Analytical

# GEO SYSTEM

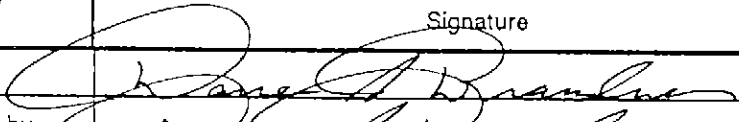
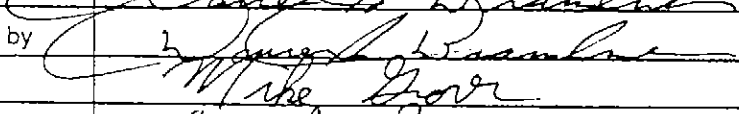
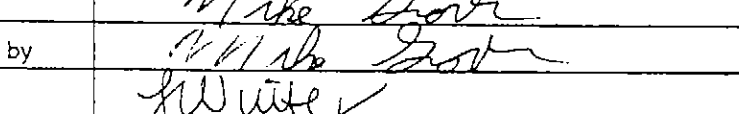
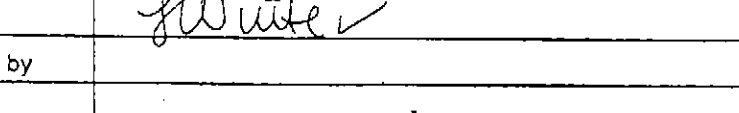
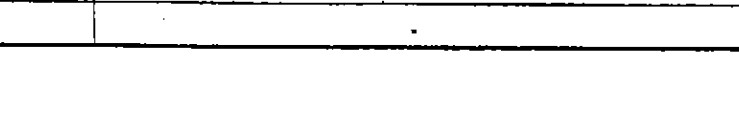
Consultants, Inc.

18218 McDermott East, Suite G, Irvine, California 92714  
(714) 553-8757 • FAX (714) 261-8550

## CHAIN OF CUSTODY RECORD

Project Name Sprayco / Bellaire Lighting  
Project No. 93-513  
Location North Hollywood  
Project Manager Philip Miller  
Sheet 1 of 1 Date February 2, 1993

Sample Identification	Date Sampled	Time Sampled	Sample Description	Grab	Composite	Number of containers	Total Priority Pollutant Metals *	Analysis						Remarks
BG-153"-9"	2/2		Soil	X		1	✓							Please FAX results when available.  * Title 22
BG-1518"-24"														
BG-1545'-5'														Normal TAT.
SB-553"-9"							✓							
SB-5518"-24"														
SB-5545'-5'														
SB-653"-9"							✓							
SB-6518"-24"														
SB-6545'-5'														
SB-753"-9"							✓							
SB-7518"-24"														intact for ice
SB-7545'-5'														

Signature		Company		Date	Time
Collected by		Geo-system		2-2-94	2:15
Relinquished by		"		2-3-94	8:05
Received by		"		2-3-94	8:05
Relinquished by		"		2-3-94	11:30
Received by		Dellman Analytical		2-3-94	11:30
Relinquished by					
Received by					

**SOIL VAPOR RESAMPLING  
REPORT**

for

**Former Sprayco Facility  
12600 Saticoy Street South  
North Hollywood, California  
LARWQCB File No. 111.1004**

for Submittal to

**State of California Environmental Protection Agency  
California Regional Water Quality Control Board  
Los Angeles Region  
101 Centre Plaza Drive  
Monterey Park, California 91754-2156  
Mr. Joe Luera  
(213) 266-7500**

Prepared for

**Geosystem Consultants, Inc.  
18218 McDermott East, Suite G  
Irvine, California 92714  
Mr. Philip Miller  
(714) 553-8757**

By

**AeroVironment Inc.  
222 E. Huntington Drive  
Monrovia, CA 91016  
Mr. Bill Wyman  
(818) 357-9983**

**August 1994**

**AeroVironment, Inc.**

**222 East Huntington Drive • Monrovia, California 91016 • U.S.A.  
Telephone 818/357-9983 • Telex 467 121, AEROVIR-C1 • FAX 818/359-9628**

**SOIL VAPOR RESAMPLING  
REPORT**

**for**

**Former Sprayco Facility  
12600 Saticoy Street South  
North Hollywood, California  
LARWQCB File No. 111.1004**

**for Submittal to**

**State of California Environmental Protection Agency  
California Regional Water Quality Control Board  
Los Angeles Region  
101 Centre Plaza Drive  
Monterey Park, California 91754-2156  
Mr. Joe Luera  
(213) 266-7500**

**Prepared for**

**Geosystem Consultants, Inc.  
18218 McDermott East, Suite G  
Irvine, California 92714  
Mr. Philip Miller  
(714) 553-8757**

**August 1994**

**R94-300677**

**Soil Vapor Resampling Report**

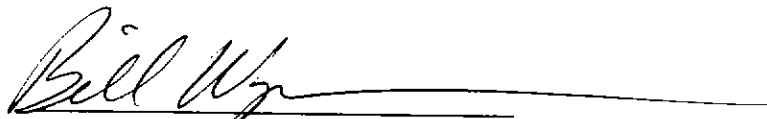
**Former Sprayco Facility  
12600 Saticoy Street South  
North Hollywood, California  
LARWQCB File No. 111.1004**

**Prepared by:**



**Ms. Karen Kahler  
California Registered Geologist #6061  
Geologist**

**Reviewed by:**



**Mr. Bill Wyman  
California Registered Geologist #4959  
Senior Geologist**

**AeroVironment Inc.  
222 East Huntington Drive  
Monrovia, California 91016  
(818) 357-9983**

**August 1994**



## EXECUTIVE SUMMARY

---

AeroVironment Inc. (AeroVironment) resampled eight soil vapor sampling locations from a previous soil vapor survey at the former Sprayco facility at 12600 Saticoy Street South, North Hollywood, California ("the Property") on August 18, 1994. The purpose of this additional soil vapor survey was to address sample dilution concerns raised by the California Regional Water Quality Control Board, Los Angeles Region (LARWQCB) after AeroVironment's initial soil vapor survey in January 1994.

During the January 1994 survey of the Property, four volatile organic compounds (VOCs) were detected in the subsurface: tetrachloroethene (PCE), 1,1,1-trichloroethane (1,1,1-TCA), trichloroethene (TCE), and 1,1-dichloroethene (1,1-DCE). Maximum concentrations detected were 141.28 micrograms per liter ( $\mu\text{g/L}$ ) of PCE, 62.53  $\mu\text{g/L}$  of 1,1,1-TCA, 20.26  $\mu\text{g/L}$  of TCE, and 3.92  $\mu\text{g/L}$  of 1,1-DCE. PCE values were reported based on photoionization detector (PID) results. This occurred because AeroVironment recognized that the electrolytic conductivity detector (ELCD) values were very high and well out of linear range of the instruments. All other reported values were based on appropriate ELCD values. The highest concentrations of halogenated VOCs were detected in soil vapor samples collected from probes in the vicinity of the former solvent storage area.

On August 18, 1994, AeroVironment collected nine soil vapor samples from eight locations in the southern portion of the Property. Eight of the locations were sampled at a depth of five feet below ground surface (bgs), and an additional sample was collected from 15 feet bgs at location SG-V12. The samples were analyzed using methodology similar to United States Environmental Protection Agency (USEPA) Method 8010/8020.

All nine of the samples had detectable concentrations of PCE, 1,1,1-TCA, and TCE. The compound 1,1-DCE was detected in every sample except for the four samples from locations SG-V10, SG-V11, SG-V13, and SG-V14. This is probably due to the low initial concentrations and the effects of dilution raising the detection limits. The four compounds detected during this survey are the same ones identified as being present in the subsurface during the January 1994 survey. The maximum concentration of PCE detected during the resampling (887.66  $\mu\text{g/L}$ ) was found at location SG-V11. The maximum concentrations of 1,1,1-TCA (84.62  $\mu\text{g/L}$ ), TCE (19.31  $\mu\text{g/L}$ ), and 1,1-DCE (4.30  $\mu\text{g/L}$ ) were detected in the sample from location SG-V7. All values reported for the August 1994 survey are based on ELCD results. The calibration range for this survey was 5 to 50  $\mu\text{g/L}$ . All samples were diluted until analytical results fell within the calibration range. True values then were calculated by multiplying the result by the dilution factor. Sample dilution factors ranged from 4 to 20.

Like the January 1994 soil vapor survey, the results of the August 1994 soil vapor resampling suggest that soil underlying the Property has been impacted by chlorinated solvents. High VOC concentrations in soil vapor extend as deep as 15 feet bgs but generally decrease with depth. As in the previous soil vapor survey, VOCs appear to be concentrated near the former solvent storage area.

## TABLE OF CONTENTS

	<u>Page</u>
1. INTRODUCTION	1-1
2. PREVIOUS SOIL VAPOR ASSESSMENT	2-1
3. PROCEDURES	3-1
3.1 Field Procedures	3-1
3.2 Mobile Laboratory Procedures	3-1
3.3 Quality Assurance/Quality Control Procedures	3-1
3.3.1 Sampling Protocols	3-2
3.3.2 Instrument Calibration	3-2
3.3.3 Quality Control (QC) Samples	3-2
3.3.4 Quality Control Blanks	3-3
3.4 Method Detection Limit (MDL) Determination	3-3
4. DISCUSSION OF SOIL VAPOR RESAMPLING RESULTS	4-1

### TABLE 1

#### SOIL VAPOR ANALYTICAL RESULTS

### FIGURES

#### 1 SOIL VAPOR SAMPLING LOCATIONS

### APPENDICES

- A SOIL VAPOR SAMPLE ANALYTICAL RESULTS AND RAW DATA
- B SOIL VAPOR DAILY MID-POINT STANDARD AND LABORATORY CONTROL SAMPLE DATA
- C DAILY QC CHROMATOGRAMS
- D THREE POINT CALIBRATION CURVE RESULTS WITH CHROMATOGRAMS
- E SOIL VAPOR SAMPLE DATA WORKSHEETS AND CHROMATOGRAMS

## Section 1

### INTRODUCTION

---

AeroVironment resampled soil vapor survey locations at the Property on August 18, 1994. This work was conducted as a follow-up to the January 11 and 12, 1994 soil vapor survey that identified PCE, 1,1-DCE, 1,1,1-TCA, and TCE in the subsurface. Although concentrations of PCE and/or 1,1,1-TCA in 15 of the 22 samples collected and analyzed during the January 1994 survey were above the highest concentration in the calibration range (25 µg/L), dilutions of only seven of the samples were analyzed at the time. Subsequently, the LARWQCB directed AeroVironment to resample and reanalyze additional soil vapor from select locations at the Property, using appropriate dilution protocols. The August 1994 assessment followed the requirements of the Well Investigation Plan (WIP) guidance document issued by the LARWQCB in March 1994.

Nine soil vapor samples were collected from eight sampling points in the southern portion of the Property, as shown in Figure 1. Eight of the nine soil vapor samples were collected from a depth of five feet bgs. At sampling location SG-V12, an additional sample was collected and analyzed from 15 feet bgs. All of the samples were analyzed for chemical compounds on the LARWQCB March 1994 WIP document analyte list (a subset of the USEPA 8010/8020 analytes list). This list is shorter than the original analyte list used in January 1994; however, none of the compounds that appeared only on the previous list are of concern at this site.

The soil vapor analytical results presented in this report (Table 1) are obtained by sampling and analyzing soil vapor concentrations in the vadose zone. Analyte detection at a particular location is representative of vapor-phase contamination at that location. The presence of detectable concentrations of those analytes in the vadose zone is dependent upon several factors, including the presence of vapor- and liquid-phase VOC concentrations adequate to facilitate volatilization into the unsaturated zone.

## Section 2

### PREVIOUS SOIL VAPOR ASSESSMENT

---

On January 11 and 12, 1994, AeroVironment collected and analyzed soil vapor samples from 22 locations at the Property using analytical methodology similar to USEPA Method 8010/8020. The locations of the soil vapor probes are shown on Figure 1. Twenty-two soil vapor samples were collected from a depth of five feet bgs. Second-column confirmation analysis was run on the five-foot sample (Sample SG-V7.1) from location SG-V7. Dilutions of the five-foot samples from locations SG-V7, SG-V11, and SG-V12 (the samples with the three highest VOC concentrations detected) were analyzed. At locations SG-V7, SG-V9, SG-V11, and SG-V12, samples also were collected from a depth of 15 feet bgs. The four multi-depth sampling locations were in the southern portion of the Property, where a solvent storage area formerly was located.

All of the soil vapor samples collected and analyzed at the Property during the January 1994 assessment had detectable levels of halogenated VOCs. Compounds detected were PCE (up to 141.28  $\mu\text{g/L}$ ), 1,1-DCE (up to 3.92  $\mu\text{g/L}$ ), 1,1,1-TCA (up to 62.53  $\mu\text{g/L}$ ), and TCE (up to 20.26  $\mu\text{g/L}$ ). The highest concentrations of halogenated VOCs were detected in soil vapor samples collected from probes in the vicinity of the former solvent storage area. The highest concentration of PCE was found in Sample SG-V11.2, a dilution of the five-foot sample collected from location SG-V11, a sampling point west of the former solvent storage area.

Results for PCE were out of the linear calibration range of the ELCD (25  $\mu\text{g/L}$  being the highest concentration in the calibration range). Although the PID had the same calibration range as the ELCD, the PID responds much more linearly over a broad range; hence, extensions above its linear range were felt to better represent a closer approximation to actual values. PCE results therefore were calculated by using the responses from the PID.

After reviewing the results of this shallow soil vapor assessment, the LARWQCB directed AeroVironment to resample and reanalyze soil vapor from select locations at the Property, as the LARWQCB felt that appropriate dilution protocols had not been followed. The LARWQCB concluded that the results from the initial soil vapor survey that exceeded the highest concentration in the calibration range (25  $\mu\text{g/L}$ ) should be considered a low estimate of the concentrations of VOCs detected at the site.

A complete description of the January 1994 soil vapor survey can be found in AeroVironment Document R93-300677R, dated March 4, 1994.

## Section 3

### PROCEDURES

---

#### 3.1 FIELD PROCEDURES

The soil vapor samples were collected through 1/8-inch outside diameter Nylaflow tubing that was advanced into the ground via a steel probe. The steel probe was driven to the target depth and then withdrawn two to four inches, leaving the drive tip behind. If a good seal between the soil and the probe could not be obtained, bentonite clay was placed around the probe and soil at the surface. The Nylaflow sample port was then attached to a 20 cubic centimeter (cc) syringe and the ambient air in the Nylaflow tube was extracted (purged). A purge volume of 40 cc was selected for samples from five feet bgs, based on results from AeroVironment's previous purge test. A 60 cc purge volume was used for the sample from 15 feet bgs.

Each soil vapor sample was collected and locked into a 20 cc syringe by way of a special three-way valve and delivered via a specially designed carrying case, within 20 minutes of sample collection, to the mobile laboratory.

#### 3.2 MOBILE LABORATORY PROCEDURES

The soil vapor samples were analyzed on site in a mobile laboratory using a laboratory-grade Hewlett-Packard 5890 Series II gas chromatograph (GC) equipped with a Hall ELCD and a PID in series. The results were quantified using Hewlett-Packard's Chem-Station data system.

The soil vapor samples were injected directly into the chromatographic column through an injection port. The individual analytes present in the soil vapor were separated as they were drawn through the column by laboratory-grade carrier gas. As each analyte exited the column and passed through the detectors, an electronic signal, proportional to the quantity of the component, was sent to the Chem-Station data system, which produced a plot of the detector response versus time (chromatogram of the soil vapor sample).

Each of the samples was diluted by a factor of 4 to 20. The dilution factor for each sample is recorded on the soil vapor sample raw data sheets (Appendix A) and on Table 1.

#### 3.3 QUALITY ASSURANCE/QUALITY CONTROL PROCEDURES

The quality of the measurement data is controlled by following AeroVironment's sampling and analysis, quality assurance/quality control (QA/QC) program. This program includes using strict sampling protocols to protect the integrity of the soil vapor samples, observing calibration procedures to ensure that valid data are obtained, and analyzing Quality Control (QC) samples to check sampling procedures and instrument precision.

### **3.3.1 Sampling Protocols**

The sampling procedures detailed in the preceding sections were designed to maintain sample integrity and reproducibility of the data collected. To minimize the risk of cross-contamination, AeroVironment protocols specify the use of purging and sampling equipment made of materials such as stainless steel, Teflon, or Nylaflo which do not readily absorb organic chemicals. To further reduce the possibility of cross-contamination, areas where minimal or no contamination were suspected were sampled before those areas where high levels of contamination were expected. Purging no more than 40 to 60 cc of soil vapor before sample collection optimized the collection of a sample representative of the vapor in the soil. Purging, checking, and capping syringes before sample collection minimized the potential of contamination by ambient organic vapors. To minimize loss or degradation of the sample, minimal time was allowed to pass between sample collection and analysis. All nine samples were analyzed within 30 minutes of collection, as recorded on the soil vapor sample raw data sheets (Appendix A). Use of syringes with septa caps and transporting the syringes via a carrying case minimized the chance of sample loss during transport to the GC.

### **3.3.2 Instrument Calibration**

Proper calibration of the GC contributed to measurement accuracy and precision and provided a means for detecting instrument malfunction. The GC calibration was verified using a National Institute of Science and Technology (NIST) -traceable standard at the beginning of each sampling day. This standard source is the same as that used for the three-point calibration curve. Instrument calibration was verified by analyzing a liquid standard sample called the mid-standard (daily one-point calibration sample). Results of this analysis were compared to average calibration factor (CF) results obtained from the three-point instrument calibration curve. All compounds detected at a particular site must pass the mid-standard calibration check to ensure quantification. The response factor for each of the compounds must be within 15 percent of the corresponding value from the three-point calibration curve, otherwise corrective action is implemented. The three-point instrument calibration curve is recalculated as necessary. Results of the most recent three-point calibration curve are provided in Appendix D.

### **3.3.3 Quality Control (QC) Samples**

A QC check sample was analyzed at the end of the working day to ensure acceptable analysis. The QC check sample is a standard obtained from a different commercial source than the calibration standards and mid-standard. The QC check sample must contain the same chemicals as the mid-standard. Response for each compound must be within 20 percent of the corresponding true value as identified.

### **3.3.4 Quality Control Blanks**

Any GC column is susceptible to remnant contamination, especially after highly contaminated samples are analyzed (more than 100 µg/L). For this reason, equipment blanks (EQ Blanks) (also called probe blanks) or laboratory blanks (QC or system blanks) are analyzed as part of normal QC protocol. An equipment blank is analyzed at the start of each sampling day to document any residual contamination that remains in the sampling equipment that may interfere with sample analyses. Equipment blanks are collected in the same manner as an actual sample flowing through the entire sampling apparatus, but with uncontaminated or ultra zero-grade air from a commercial compressed-air cylinder. Since no residual contamination was found during equipment blank analysis, it was not necessary to analyze laboratory blanks. Laboratory blanks are run to document any residual contamination that remains in the GC that may interfere with the sample analyses.

### **3.4 METHOD DETECTION LIMIT (MDL) DETERMINATION**

The analytical method detection limit (MDL) is defined as the minimum concentration at which a substance can be measured according to a particular analytical method with 99 percent confidence that the minimum concentration measured is a real concentration with a value above zero. The MDL for the soil vapor analyses of VOCs, using analytical methods similar to USEPA analytical Method 8010/8020, was established before this investigation as 1.0 µg/L. The MDL was established by analyzing NIST-traceable standards and calculating the concentration of the smallest response signal that could be resolved. This process was repeated seven times and the standard deviation was calculated. The MDL is established as three times the standard deviation of the seven sample analyses. The MDL reported in this investigation is 1.0 µg/L for all VOCs.





## Section 4

### DISCUSSION OF SOIL VAPOR RESAMPLING RESULTS

Nine soil vapor samples were collected from eight locations in the southern portion of the Property. The samples were analyzed using methodology similar to USEPA Method 8010/8020. The locations of all soil vapor probes are shown on Figure 1. A sample was collected from five feet bgs at each probe location and from 15 feet bgs at location SG-V12. Soil vapor sample numbers used in this report were kept similar to the original sample numbers. For example, SG-6R from this survey was obtained from sample location SG-V6 from the original January 1994 survey. Appendix A contains the analytical results and soil vapor sampling logs, and Appendix B contains the QA/QC data. Appendix C contains all sample QC worksheets and chromatograms, Appendix D contains three-point calibration curve results and chromatograms, and Appendix E contains data worksheets and chromatograms for soil vapor sample results.

All nine of the samples had concentrations of PCE, 1,1,1-TCA, and TCE exceeding the detection limit. The compound 1,1-DCE was detected in every sample except for the four samples from locations SG-V10, SG-V11, SG-V13, and SG-V14. This was probably due to raised MDLs caused by dilution. The four compounds detected during this survey are the same ones identified as being present in the subsurface during the January 1994 survey. The maximum concentration of PCE detected during the resampling (887.66  $\mu\text{g/L}$ ) was found at location SG-V11. The maximum concentrations of 1,1,1-TCA (84.62  $\mu\text{g/L}$ ), TCE (19.31  $\mu\text{g/L}$ ), and 1,1-DCE (4.30  $\mu\text{g/L}$ ) were detected in the sample from location SG-V7. All values reported for the August 1994 survey are based on ELCD results. The calibration range for this survey was 5 to 50  $\mu\text{g/L}$ . All samples were diluted until analytical results fell within the calibration range. True values then were calculated by multiplying the result by the dilution factor. Sample dilution factors ranged from 4 to 20. Table 1 summarizes the analytical results for the August 1994 soil vapor survey, and provides data from the January 1994 survey for comparison.

Like the January 1994 soil vapor survey, the results of the August 1994 soil vapor resampling suggest that soil underlying the Property has been impacted by chlorinated solvents. VOCs in soil vapor extend as deep as 15 feet bgs but generally decrease with depth. As in the shallow soil vapor survey, VOCs appear to be concentrated near the former solvent storage area.

As shown in Table 1, analytical results for 1,1-DCE, 1,1,1-TCA, and TCE at each sampling location are similar for January and August 1994. Concentrations of PCE at each location, however, appear to differ significantly. The principal cause of this difference is most likely the use of different detectors for the two surveys -- a PID was used to obtain the analytical results for PCE reported for January 1994, while an ELCD was used to obtain the analytical results for PCE in August 1994. Other factors possibly contributing to the difference in PCE results include the

seven-month time difference between sampling episodes; slight spatial differences between the sampling points for each sampling episode; migration of soil vapor; differences in soil moisture; and climatological effects. The August 1994 samples were not intended to serve as duplicates of the January 1994 samples, nor should they be considered as such. Rather, they are new, discrete samples obtained from approximately the same locations.

**Table 1**

**SOIL VAPOR ANALYTICAL RESULTS**

**TABLE 1. Summary of soil vapor analytical results.  
12600 Saticoy Street South, North Hollywood, California  
August 1994<sup>a</sup>**

Analyte (µg/L) <sup>b</sup>	Soil Vapor Probe Locations							
	SG-V6	SG-6R	SG-V7	SG-V7.1	SG-V7.3	SG-7R	SG-V8	SG-8R
	5'	5'	5'	5'	5'	5'	5'	5'
	1/11/94	8/18/94	1/11/94	1/12/94	1/12/94	8/18/94	1/11/94	8/18/94
	1317	<b>1316</b>	1339	1121	1815	<b>1453</b>	1358	<b>1102</b>
	1:1	<b>5:1</b>	1:1	10:1	5:1	<b>10:1</b>	1:1	<b>4:1</b>
1,1-Dichloroethene (1,1-DCE)	3.92	<b>2.44</b>	2.50	2.94	1.95	<b>4.30</b>	2.78	<b>1.90</b>
1,1,1-Trichloroethane	62.53	<b>48.37</b>	44.05	52.92	36.51	<b>84.62</b>	46.01	<b>49.19</b>
Trichloroethene (TCE)	8.54	<b>13.88</b>	4.60	4.94	2.52	<b>19.31</b>	8.91	<b>9.50</b>
Tetrachloroethene (PCE)	65.65 <sup>c</sup>	<b>126.94</b>	91.61 <sup>c</sup>	95.95 <sup>c</sup>	32.74 <sup>c</sup>	<b>292.62</b>	57.00 <sup>c</sup>	<b>128.33</b>

a Data from January 1994 (not in boldface type) are presented for comparison purposes

b µg/L = micrograms per liter. Detection limit is 1 µg/L where no dilution was performed (1:1). For diluted samples, detection limit is 1 µg/L times the dilution factor.

c PCE values for January 1994 survey based on photoionization detector results. (All other compounds and all August 1994 values based on electrolytic conductivity detector results.)

d BDL = below the laboratory detection limit

e Duplicate

**TABLE 1. Summary of soil vapor analytical results.  
12600 Saticoy Street South, North Hollywood, California  
August 1994<sup>a</sup>**

Analyte ( $\mu\text{g/L}$ ) <sup>b</sup>	Soil Vapor Probe Locations								
	SG-V10	SG-10R	SG-V11	SG-V11.2	SG-11R	SG-V12	SG-V12.2	SG-12R	SG-12R
	5'	5'	5'	5'	5'	5'	5'	5'	5'
	1/12/94	8/18/94	1/12/94	1/12/94	8/18/94	1/12/94	1/12/94	8/18/94	8/18/94
	1438	<b>1249</b>	1457	1758	<b>1201</b>	1517	1740	<b>1341</b>	<b>1341</b>
	1:1	<b>4:1</b>	1:1	5:1	<b>20:1</b>	1:1	5:1	<b>5:1</b>	<b>20:1</b>
<b>1,1-Dichloroethene (1,1-DCE)</b>	1.17	<b>BDL<sup>d</sup></b>	1.04	BDL	<b>BDL</b>	2.60	0.98	<b>1.90</b>	<b>1.77</b>
<b>1,1,1-Trichloroethane</b>	51.27	<b>22.76</b>	51.09	26.08	<b>63.33</b>	58.60	22.53	<b>72.96</b>	<b>68.74</b>
<b>Trichloroethene (TCE)</b>	11.24	<b>8.54</b>	3.63	1.68	<b>5.11</b>	6.67	2.61	<b>13.64</b>	<b>12.49</b>
<b>Tetrachloroethene (PCE)</b>	67.01 <sup>c</sup>	<b>91.55</b>	128.37 <sup>c</sup>	141.28 <sup>c</sup>	<b>887.66</b>	97.91 <sup>c</sup>	73.49 <sup>c</sup>	<b>269.09</b>	<b>230.22</b>

a Data from January 1994 (not in boldface type) are presented for comparison purposes

b  $\mu\text{g/L}$  = micrograms per liter. Detection limit is 1  $\mu\text{g/L}$  where no dilution was performed (1:1). For diluted samples, detection limit is 1  $\mu\text{g/L}$  times the dilution factor.

c PCE values for January 1994 survey based on photoionization detector results. (All other compounds and all August 1994 values based on electrolytic conductivity detector results.)

d BDL = below the laboratory detection limit

e Duplicate

**TABLE 1. Summary of soil vapor analytical results.  
12600 Saticoy Street South, North Hollywood, California  
August 1994<sup>a</sup>**

Analyte ( $\mu\text{g/L}$ ) <sup>b</sup>	Soil Vapor Probe Locations						
	SG-V12.1	SG-V12.1D <sup>c</sup>	SG-12.1R	SG-V13	SG-13R	SG-V14	SG-14R
	15'	15'	15'	5'	5'	5'	5'
	1/12/94	1/12/94	8/18/94	1/12/94	8/18/94	1/12/94	8/18/94
	1:1	40:1	4:1	1:1	5:1	1:1	10:1
1,1-Dichloroethene (1,1-DCE)	3.32	BDL	<b>2.09</b>	1.35	<b>BDL</b>	1.27	<b>BDL</b>
1,1,1-Trichloroethane	52.59	20.61	<b>50.28</b>	43.93	<b>38.57</b>	46.92	<b>38.51</b>
Trichloroethene (TCE)	5.08	BDL	<b>9.42</b>	4.79	<b>8.12</b>	4.02	<b>7.45</b>
Tetrachloroethene (PCE)	52.98 <sup>c</sup>	6.02 <sup>c</sup>	<b>183.15</b>	78.19 <sup>c</sup>	<b>159.30</b>	85.62 <sup>c</sup>	<b>357.45</b>

a Data from January 1994 (not in boldface type) are presented for comparison purposes

b  $\mu\text{g/L}$  = micrograms per liter. Detection limit is 1  $\mu\text{g/L}$  where no dilution was performed (1:1). For diluted samples, detection limit is 1  $\mu\text{g/L}$  times the dilution factor.

c PCE values for January 1994 survey based on photoionization detector results. (All other compounds and all August 1994 values based on electrolytic conductivity detector results.)

d BDL = below the laboratory detection limit

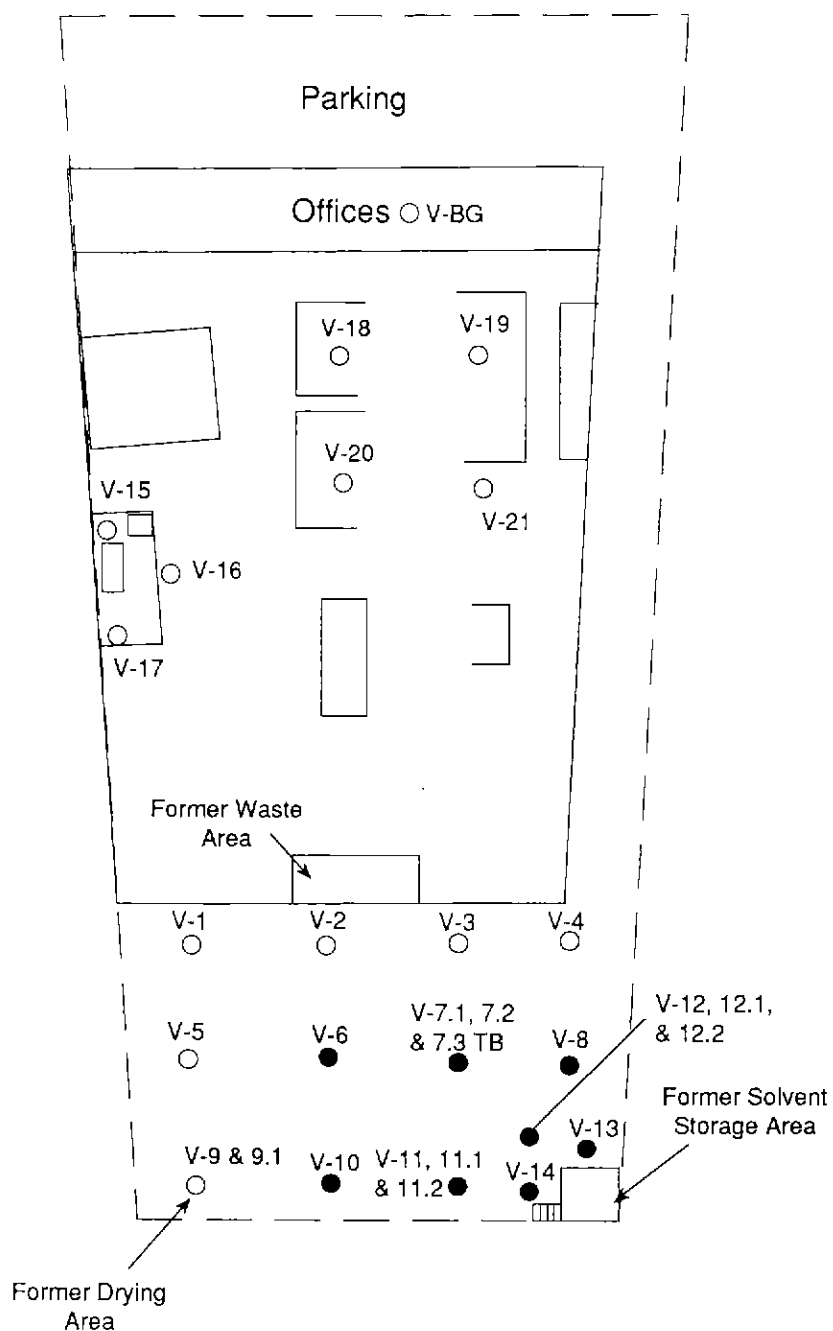
e Duplicate

**Figure 1**

**SOIL VAPOR SAMPLING LOCATIONS**



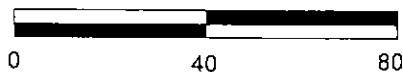
## SATICOY STREET SOUTH



## LEGEND

- - Soil Vapor Sampling Location, January 1994
- - Soil Vapor Resampling Location, August 1994
- TB - Tedlar Bag Sample for Second Column Confirmation, January 1994

Scale (feet)



**AeroVironment Inc.**  
 222 East Huntington Drive  
 Monrovia, California 91016

## SOIL VAPOR SAMPLE LOCATIONS

Former Sprayco Facility  
 12600 Satcoy St. So.  
 North Hollywood, CA

Project No. 300677

FIGURE

1

**Appendix A**

**SOIL VAPOR SAMPLE ANALYTICAL RESULTS  
AND RAW DATA**

# Soil Vapor Sample Collection Log

Project name: Geosystems  
Analysis date: 08/18/94  
Project#: 300677  
GC ID: GC2 PID/ELCD

Sample Number	Syringe Number	Sample Time	Probe Depth(ft)	Purge Flow(cc/m)	Purge Vacuum	Purge Vol(cc)	Sampled By	Comments
Eq. Blank 1	15	09:52	NA	NA	NA	NA	NC	
SG-08R	2	11:02	5	NA	NA	40	NC	
SG-13R	3	11:31	5	NA	NA	40	NC	
SG-11R	4	12:01	5	NA	NA	40	NC	
SG-10R	5	12:49	5	NA	NA	40	NC	
SG-6R	6	13:16	5	NA	NA	40	NC	
SG-12R	7	13:41	5	NA	NA	40	NC	
SG-12R	7	13:41	5	NA	NA	40	NC	
SG-14R	8	14:27	5	NA	NA	40	NC	
SG-7R	9	14:53	5	NA	NA	40	NC	
SG-12.1R	1	15:19	15	NA	NA	60	NC	

**AeroVironment Inc.**Data Worksheet  
GC/PID/ELCD

Sample ID: SG-12R

Control #: 818947

Project name: Geosystems

Sample date: 08/18/94

Project#: 300677

File name: NV-1056

Location: No. Hollywood

Analysis: 8010/8020

Analyst: Jay Berger

Sampled by: NC

Lab ID: Truck 1

GC ID: GC2 PID/ELCD

Sample type: N1

Calib std: no

Sample time: 13:41

Received time: 13:44

Injection time: 13:47

Probe depth: 5

Purge volume: 40

Sample flow: NA

Vacuum: NA

Syringe: 7

Dilution factor: 5

Calibration date: 07/22/94

Injection volume 0.1

18Th.

18Th.

Feet

CC

CC/min

H<sub>2</sub>O

Plastic 1cc

mL

Compound	Standard	Avg. CF	Sample		
	RT		RT	Area	ug/L
Dichlorodifluoromethane	0.59	138477		0	0.00
Vinyl chloride	0.71	271379		0	0.00
Chloroethane	0.87	195402		0	0.00
Trichlorofluoromethane	0.97	290771		0	0.00
1,1,2-Trichloro-trifluoroethane	1.23	334184		0	0.00
1,1-Dichloroethene (1,1-DCE)	1.22	443468	1.27	84112	1.90
Dichloromethane (Methylene chloride)	1.50	533175		0	0.00
trans-1,2-Dichloroethene (t-1,2-DCE)	1.67	486172		0	0.00
1,1-Dichloroethane (1,1-DCA)	1.96	499909		0	0.00
cis-1,2-Dichloroethene (c-1,2-DCE)	2.46	501846		0	0.00
Chloroform	2.81	644803		0	0.00
1,1,1-Trichloroethane (1,1,1-TCA)	2.97	559745	3.01	4083639	72.96
Carbon tetrachloride	3.16	660954		0	0.00
Benzene	3.41	13196		0	0.00
1,2-Dichloroethane (1,2-DCA)	3.48	536556		0	0.00
Trichloroethene (TCE)	4.52	581271	4.57	792874	13.64
Toluene	7.02	12282		0	0.00
1,1,2-Trichloroethane (1,1,2-TCA)	7.82	538285		0	0.00
Tetrachloroethene (PCE)	7.94	640559	7.98	17237100	269.09
1,1,1,2-Tetrachloroethane	9.49	607279		0	0.00
Ethylbenzene	9.53	10974		0	0.00
m&p-Xylene	9.73	12790		0	0.00
o-Xylene	10.30	10909		0	0.00
1,1,2,2-Tetrachloroethane	11.41	602475		0	0.00

Total peaks of PID: 2  
Total peaks of ELCD: 4  
Unidentified peaks: 0

## Notes:

1-"Standard RT" is the retention time for the standard.

2-"Standard AVE. CF" is the average calibration factor for this instrument.

3-"Sample area" is the area under the peak.

4-"Sample ug/L" is the concentration of the analyte in the sample

**AeroVironment Inc.****Analysis Results**

GC/PID/ELCD

Sample ID: SG-12R

Control #: 818947

Sample date: 08/18/94  
Project#: 300677  
Location: No. Hollywood  
Analysis: 8010/8020  
Sample type: N1

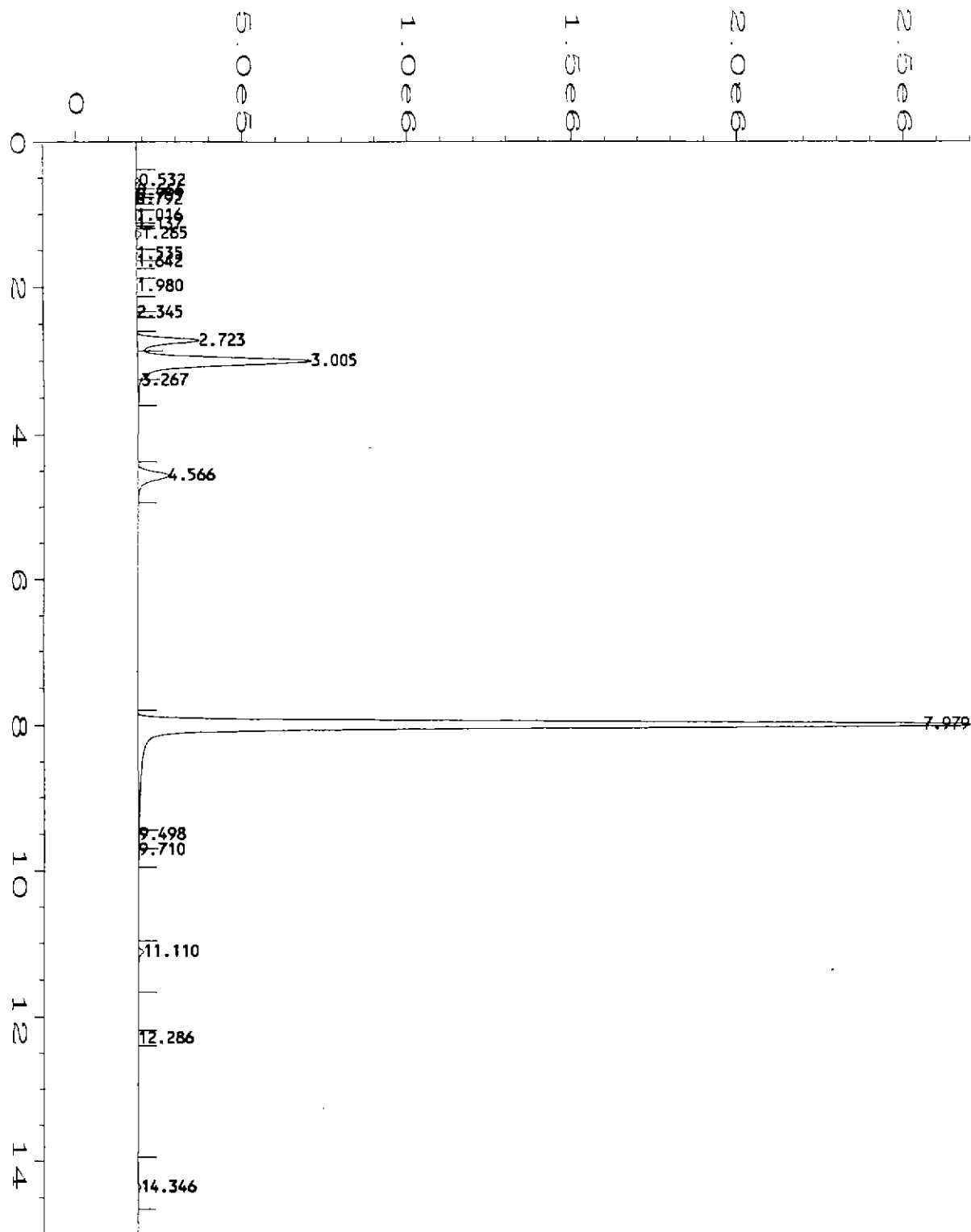
Sampled by: NC  
Sample time: 13:41  
Probe depth: 5 Feet  
Dilution factor: 5  
Injection volume: 0.10 mL

Compound	MDL ug/L	Sample ug/L
Dichlorodifluoromethane	0.42	<1.0
Vinyl chloride	0.16	<1.0
Chloroethane	0.10	<1.0
Trichlorofluoromethane	0.21	<1.0
1,1,2-Trichloro-trifluoroethane	1.00	<1.0
1,1-Dichloroethene (1,1-DCE)	0.18	1.90
Dichloromethane (Methylene chloride)	0.15	<1.0
trans-1,2-Dichloroethene(t-1,2-DCE)	0.18	<1.0
1,1-Dichloroethane (1,1-DCA)	0.17	<1.0
cis-1,2-Dichloroethene (c-1,2-DCE)	0.16	<1.0
Chloroform	0.22	<1.0
1,1,1-Trichloroethane (1,1,1-TCA)	0.19	72.96
Carbon tetrachloride	0.53	<1.0
Benzene	0.87	<1.0
1,2-Dichloroethane (1,2-DCA)	0.26	<1.0
Trichloroethene (TCE)	0.16	13.64
Toluene	0.18	<1.0
1,1,2-Trichloroethane (1,1,2-TCA)	0.17	<1.0
Tetrachloroethene (PCE)	0.21	269.09
1,1,1,2-Tetrachloroethane	0.31	<1.0
Ethylbenzene	0.23	<1.0
m&p-Xylene	0.27	<1.0
o-Xylene	0.41	<1.0
1,1,2,2-Tetrachloroethane	0.22	<1.0

## Notes:

1-"MDL ug/L" is the method limit.

2-"Sample ug/L" is the concentration of the analyte in the sample



Data File Name : C:\HPCHEM\1\DATA\NV-F1056.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : SG-12R  
 Run Time Bar Code:  
 Acquired on : 18 Aug 94 01:47 PM  
 Report Created on: 18 Aug 94 02:03 PM  
 Sample Info : 5:1 Dilution

Page Number : 1  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

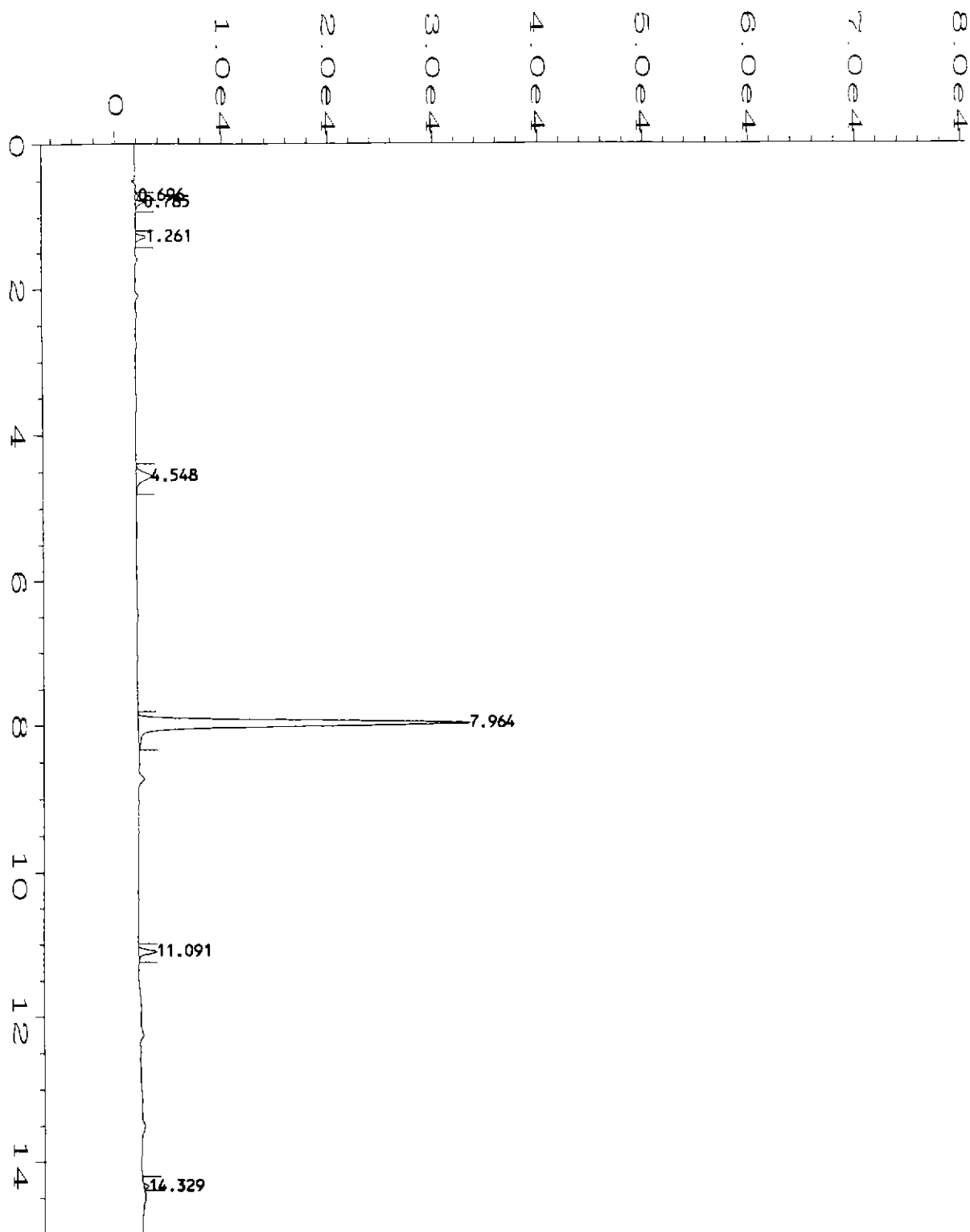
Data File Name : C:\HPCHEM\1\DATA\NV-F1056.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : SG-12R  
 Run Time Bar Code:  
 Acquired on : 18 Aug 94 01:47 PM  
 Report Created on: 18 Aug 94 02:03 PM

Page Number : 2  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Sig. 1 in C:\HPCHEM\1\DATA\NV-F1056.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.532	37738	10256	BV	0.052	0.1594
2	0.666	10936	5163	PV	0.032	0.0462
3	0.731	3745	3053	VV	0.018	0.0158
4	0.792	4578	1821	VV	0.040	0.0193
5	1.016	4174	706	PV	0.083	0.0176
6	1.137	1240	517	VV	0.032	0.0052
7	1.265	84112	16065	VV	0.076	0.3553
8	1.535	9017	1432	VV	0.078	0.0381
9	1.642	1533	633	VV	0.040	0.0065
10	1.980	11206	1845	PV	0.083	0.0473
11	2.345	2559	1644	PV	0.029	0.0108
12	2.723	1131326	185673	PV	0.092	4.7788
13	3.005	4083639	523245	VV	0.111	17.2497
14	3.267	72490	11487	VV	0.105	0.3062
15	4.566	792874	91987	PV	0.128	3.3492
16	7.979	1.72371E+007	2726364	BV	0.097	72.8115
17	9.498	30999	3159	VV	0.126	0.1309
18	9.710	7491	1180	VB	0.080	0.0316
19	11.110	95970	16662	BB	0.085	0.4054
20	12.286	6491	1127	PV	0.086	0.0274
21	14.346	44385	8165	BV	0.080	0.1875

Total area = 2.36736E+007



Data File Name : C:\HPCHEM\1\DATA\NV-R1056.D  
Operator : JAY BERGER  
Instrument : INSTRUMEN  
Sample Name : SG-12R  
Run Time Bar Code:  
Acquired on : 18 Aug 94 01:47 PM  
Report Created on: 18 Aug 94 02:03 PM  
Sample Info : 5:1 Dilution

Page Number : 1  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH



Data File Name : C:\HPCHEM\1\DATA\NV-R1056.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : SG-12R  
 Run Time Bar Code:  
 Acquired on : 18 Aug 94 01:47 PM  
 Report Created on: 18 Aug 94 02:03 PM

Page Number : 2  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Sig. 2 in C:\HPCHEM\1\DATA\NV-R1056.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.696	1264	314	VV	0.055	0.6110
2	0.785	2629	815	VB	0.046	1.2707
3	1.261	3955	980	BB	0.062	1.9114
4	4.548	11350	1430	BB	0.113	5.4853
5	7.964	178992	31443	BB	0.088	86.5052
6	11.091	7257	1683	BB	0.067	3.5072
7	14.329	1467	469	BV	0.053	0.7092

Total area = 206915

# Soil Vapor Analytical Results

**AeroVironment Inc.**

**SITE NAME: Geosystems**

**LAB NAME: AeroVironment Inc.**

**Project #: 300677**

**DATE: 08/18/94**

Sample ID: Probe depth:	Eq. Blank 1 NA	SG-08R 5	SG-13R 5	SG-11R 5	SG-10R 5	SG-6R 5	SG-12R 5	SG-12R 5
Compound								
Dichlorodifluoromethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichlorofluoromethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloro-trifluoroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethene (1,1-DCE)	<1.0	1.90	<1.0	<1.0	<1.0	2.44	1.90	1.77
Dichloromethane (Methylene chloride)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene(t-1,2-DCE)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane (1,1-DCA)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene (c-1,2-DCE)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (1,1,1-TCA)	<1.0	49.19	38.57	63.33	22.76	48.37	72.96	68.74
Carbon tetrachloride	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane (1,2-DCA)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene (TCE)	<1.0	9.50	8.12	5.11	8.54	13.88	13.64	12.49
Toluene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane (1,1,2-TCA)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene (PCE)	<1.0	128.33	159.30	887.66	91.55	126.94	269.09	230.22
1,1,1,2-Tetrachloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m&p-Xylene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
o-Xylene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

Results reported in ug/L

# Soil Vapor Analytical Results

**AeroVironment Inc.**

**SITE NAME: Geosystems**

**LAB NAME: AeroVironment Inc.**

**Project #: 300677**

**DATE: 08/18/94**

Sample ID: Probe depth:	SG-14R 5	SG-7R 5	SG-12.1R 15
Compound			
Dichlorodifluoromethane	<1.0	<1.0	<1.0
Vinyl chloride	<1.0	<1.0	<1.0
Chloroethane	<1.0	<1.0	<1.0
Trichlorofluoromethane	<1.0	<1.0	<1.0
1,1,2-Trichloro-trifluoroethane	<1.0	<1.0	<1.0
1,1-Dichloroethene (1,1-DCE)	<1.0	4.30	2.09
Dichloromethane (Methylene chloride)	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene(t-1,2-DCE)	<1.0	<1.0	<1.0
1,1-Dichloroethane (1,1-DCA)	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene (c-1,2-DCE)	<1.0	<1.0	<1.0
Chloroform	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (1,1,1-TCA)	38.51	84.62	50.28
Carbon tetrachloride	<1.0	<1.0	<1.0
Benzene	<1.0	<1.0	<1.0
1,2-Dichloroethane (1,2-DCA)	<1.0	<1.0	<1.0
Trichloroethene (TCE)	7.45	19.31	9.42
Toluene	<1.0	<1.0	<1.0
1,1,2-Trichloroethane (1,1,2-TCA)	<1.0	<1.0	<1.0
Tetrachloroethene (PCE)	357.45	292.62	183.15
1,1,1,2-Tetrachloroethane	<1.0	<1.0	<1.0
Ethylbenzene	<1.0	<1.0	<1.0
m&p-Xylene	<1.0	<1.0	<1.0
o-Xylene	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane	<1.0	<1.0	<1.0

Results reported in ug/L

# Soil Vapor Sample Raw Data

SITE NAME: No. Hollywood  
 ANALYST: Jay Berger  
 NORMAL INJECTION VOLUME: 0.50 mL

LAB NAME: AeroVironment  
 COLLECTOR: NC

DATE: 08/18/94  
 INSTRUMENT ID: GC2 PID/ELCD

Sample ID:	Eq. Blank 1	SG-08R	SG-13R	SG-11R	SG-10R
Sampling Depth:	NA	5	5	5	5
Purge Volume:	NA	40	40	40	40
Vacuum:	NA	NA	NA	NA	NA
Sampling Time:	09:52	11:02	11:31	12:01	12:49
Injection Time:	10:03	11:10	11:42	12:31	12:57
Injection Volume(mL):	0.50	0.13	0.10	0.03	0.13
Dilution Factor	1.00	4.00	5.00	20.00	4.00

COMPOUND	DETECTOR	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA
Dichlorodifluoromethane	ELCD		0		0		0		0		0
Vinyl chloride	ELCD		0		0		0		0		0
Chloroethane	ELCD		0		0		0		0		0
Trichlorofluoromethane	ELCD		0		0		0		0		0
1,1,2-Trichloro-trifluoroethane	ELCD		0		0		0		0		0
1,1-Dichloroethene (1,1-DCE)	ELCD		0	1.27	105253	1.27	33799	1.32	5087	1.27	25192
Dichloromethane (Methylene chloride)	ELCD		0		0		0		0		0
trans-1,2-Dichloroethene (t-1,2-DCE)	ELCD		0		0		0		0		0
1,1-Dichloroethane (1,1-DCA)	ELCD		0		0		0		0		0
cis-1,2-Dichloroethene (c-1,2-DCE)	ELCD		0		0		0		0		0
Chloroform	ELCD		0		0		0		0		0
1,1,1-Trichloroethane (1,1,1-TCA)	ELCD		0	3.00	3442079	3.01	2158867	3.05	886169	3.01	1592299
Carbon tetrachloride	ELCD		0		0		0		0		0
Benzene	PID		0		0		0		0		0
1,2-Dichloroethane (1,2-DCA)	ELCD		0		0		0		0		0
Trichloroethene (TCE)	ELCD		0	4.58	690519	4.57	471745	4.61	74280	4.56	620191
Toluene	PID		0		0		0		0		0
1,1,2-Trichloroethane (1,1,2-TCA)	ELCD		0		0		0		0		0
Tetrachloroethene (PCE)	ELCD		0	7.98	10275700	7.98	10203800	7.99	14215000	7.98	7330231
1,1,1,2-Tetrachloroethane	ELCD		0		0		0		0		0
Ethylbenzene	PID		0		0		0		0		0
m&p-Xylene	PID		0		0		0		0		0
o-Xylene	PID		0		0		0		0		0
1,1,2,2-Tetrachloroethane	ELCD		0		0		0		0		0

Total Peaks (PID)	0	2	2	2	2
Total Peaks (ELCD)	0	4	4	4	4
Unidentified peaks	0	0	0	0	0

# Soil Vapor Sample Raw Data

SITE NAME: No. Hollywood  
 ANALYST: Jay Berger  
 NORMAL INJECTION VOLUME: 0.50 mL

LAB NAME: AeroVironment  
 COLLECTOR: NC

DATE: 08/18/94  
 INSTRUMENT ID: GC2 PID/ELCD

Sample ID:	SG-6R	SG-12R	SG-12R	SG-14R	SG-7R
Sampling Depth:	5	5	5	5	5
Purge Volume:	40	40	40	40	40
Vacuum:	NA	NA	NA	NA	NA
Sampling Time:	13:16	13:41	13:41	14:27	14:53
Injection Time:	13:24	13:47	14:11	14:36	15:00
Injection Volume(mL):	0.10	0.10	0.03	0.05	0.05
Dilution Factor	5.00	5.00	20.00	10.00	10.00

COMPOUND	DETECTOR	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA
Dichlorodifluoromethane	ELCD		0		0		0		0		0
Vinyl chloride	ELCD		0		0		0		0		0
Chloroethane	ELCD		0		0		0		0		0
Trichlorofluoromethane	ELCD		0		0		0		0		0
1,1,2-Trichloro-trifluoroethane	ELCD		0		0		0		0		0
1,1-Dichloroethene (1,1-DCE)	ELCD	1.27	108259	1.27	84112	1.28	19645	1.27	15335	1.27	95272
Dichloromethane (Methylene chloride)	ELCD		0		0		0		0		0
trans-1,2-Dichloroethene(t-1,2-DCE)	ELCD		0		0		0		0		0
1,1-Dichloroethane (1,1-DCA)	ELCD		0		0		0		0		0
cis-1,2-Dichloroethene (c-1,2-DCE)	ELCD		0		0		0		0		0
Chloroform	ELCD		0		0		0		0		0
1,1,1-Trichloroethane (1,1,1-TCA)	ELCD	3.01	2707448	3.01	4083639	3.02	961916	3.02	1077657	3.01	2368225
Carbon tetrachloride	ELCD		0		0		0		0		0
Benzene	PID		0		0		0		0		0
1,2-Dichloroethane (1,2-DCA)	ELCD		0		0		0		0		0
Trichloroethene (TCE)	ELCD	4.57	806941	4.57	792874	4.58	181552	4.58	216436	4.58	561277
Toluene	PID		0		0		0		0		0
1,1,2-Trichloroethane (1,1,2-TCA)	ELCD		0		0		0		0		0
Tetrachloroethene (PCE)	ELCD	7.98	8131533	7.98	17237100	7.99	3686711	7.99	11448400	7.99	9371969
1,1,1,2-Tetrachloroethane	ELCD		0		0		0		0		0
Ethylbenzene	PID		0		0		0		0		0
m&p-Xylene	PID		0		0		0		0		0
o-Xylene	PID		0		0		0		0		0
1,1,2,2-Tetrachloroethane	ELCD		0		0		0		0		0
Total Peaks (PID)		2		2		2		2		2	
Total Peaks (ELCD)		4		4		4		4		4	
Unidentified peaks		0		0		0		0		0	

# Soil Vapor Sample Raw Data

SITE NAME: No. Hollywood  
 ANALYST: Jay Berger  
 NORMAL INJECTION VOLUME: 0.50 mL

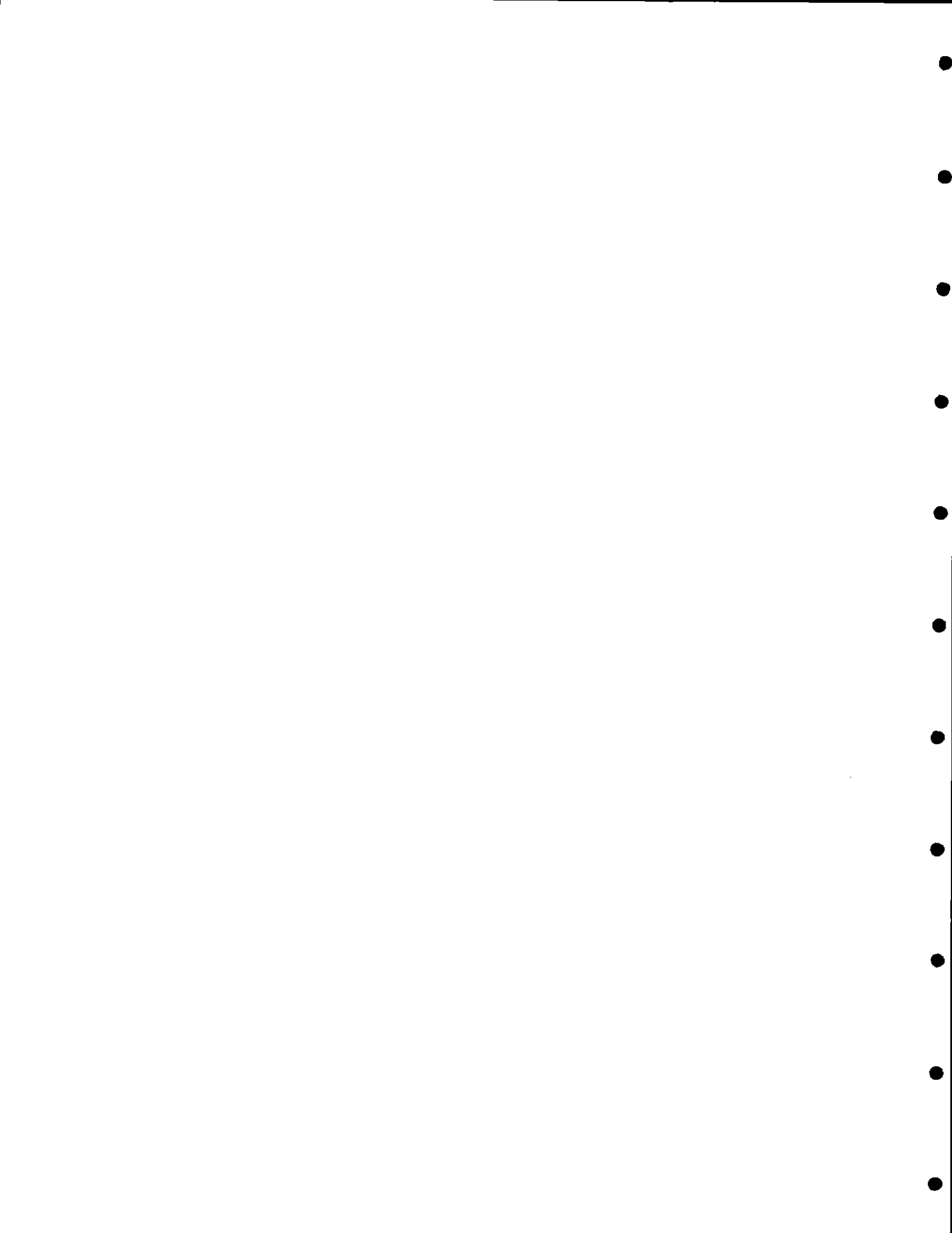
LAB NAME: AeroVironment  
 COLLECTOR: NC

DATE: 08/18/94  
 INSTRUMENT ID: GC2 PID/ELCD

Sample ID: SG-12.1R  
 Sampling Depth: 15  
 Purge Volume: 60  
 Vacuum: NA  
 Sampling Time: 15:19  
 Injection Time: 15:26  
 Injection Volume(mL): 0.13  
 Dilution Factor: 4.00

COMPOUND	DETECTOR	RT	AREA
Dichlorodifluoromethane	ELCD		0
Vinyl chloride	ELCD		0
Chloroethane	ELCD		0
Trichlorofluoromethane	ELCD		0
1,1,2-Trichloro-trifluoroethane	ELCD		0
1,1-Dichloroethene (1,1-DCE)	ELCD	1.27	115637
Dichloromethane (Methylene chloride)	ELCD		0
trans-1,2-Dichloroethene(t-1,2-DCE)	ELCD		0
1,1-Dichloroethane (1,1-DCA)	ELCD		0
cis-1,2-Dichloroethene (c-1,2-DCE)	ELCD		0
Chloroform	ELCD		0
1,1,1-Trichloroethane (1,1,1-TCA)	ELCD	3.02	3517953
Carbon tetrachloride	ELCD		0
Benzene	PID		0
1,2-Dichloroethane (1,2-DCA)	ELCD		0
Trichloroethene (TCE)	ELCD	4.58	684109
Toluene	PID		0
1,1,2-Trichloroethane (1,1,2-TCA)	ELCD		0
Tetrachloroethene (PCE)	ELCD	7.99	14664800
1,1,1,2-Tetrachloroethane	ELCD		0
Ethylbenzene	PID		0
m&p-Xylene	PID		0
o-Xylene	PID		0
1,1,2,2-Tetrachloroethane	ELCD		0

Total Peaks (PID) 2  
 Total Peaks (ELCD) 4  
 Unidentified peaks 0



**Appendix B**

**SOIL VAPOR DAILY MID-POINT STANDARD  
AND LABORATORY CONTROL SAMPLE DATA**



# SOIL GAS DAILY MID-POINT CALIBRATION STANDARD

SITE NAME: Geosystems  
 ANALYST: Jay Berger  
 NORMAL INJECTION VOLUME: 0.50 uL

LAB NAME: AeroVironment Inc.  
 STD LOT ID NO. CUS-881/H-0911

DATE: 08/18/94  
 INSTRUMENT ID: GC2 PID/ELCD

COMPOUND	DETEC.	RT	MASS ng	AREA	CF	%DIFF	ACC RGE
Dichlorodifluoromethane	ELCD						<25.00
Vinyl chloride	ELCD						<25.00
Chloroethane	ELCD						<25.00
Trichlorofluoromethane	ELCD						<25.00
1,1,2-Trichloro-trifluoroethane	ELCD						<25.00
1,1-Dichloroethene (1,1-DCE)	ELCD	1.24	10	4286960	428696	-3.33	<15.00
Dichloromethane (Methylene chloride)	ELCD						<15.00
trans-1,2-Dichloroethene(t-1,2-DCE)	ELCD	1.68	10	4937207	493721	1.55	<15.00
1,1-Dichloroethane (1,1-DCA)	ELCD	1.98	10	5272051	527205	5.46	<15.00
cis-1,2-Dichloroethene (c-1,2-DCE)	ELCD	2.48	10	5179579	517958	3.21	<15.00
Chloroform	ELCD						<15.00
1,1,1-Trichloroethane (1,1,1-TCA)	ELCD	2.99	10	5821740	582174	4.01	<15.00
Carbon tetrachloride	ELCD						<15.00
Benzene	PID	3.44	10	133228	13323	0.96	<15.00
1,2-Dichloroethane (1,2-DCA)	ELCD	3.51	10	5614938	561494	4.65	<15.00
Trichloroethene (TCE)	ELCD	4.55	10	5896768	589677	1.45	<15.00
Toluene	PID	7.05	10	124493	12449	1.36	<15.00
1,1,2-Trichloroethane (1,1,2-TCA)	ELCD	7.84	10	5478431	547843	1.78	<15.00
Tetrachloroethene (PCE)	ELCD	7.97	10	6269731	626973	-2.12	<15.00
1,1,1,2-Tetrachloroethane	ELCD						<15.00
Ethylbenzene	PID						<15.00
m&p-Xylene	PID	9.75	10	128882	12888	0.77	<15.00
o-Xylene	PID	10.32	10	109480	10948	0.35	<15.00
1,1,2,2-Tetrachloroethane	ELCD						<15.00

# SOIL GAS LABORATORY CONTROL STANDARD

SITE NAME: Geosystems  
 ANALYST: Jay Berger  
 NORMAL INJECTION VOLUME: 0.50 uL

LAB NAME: AeroVironment Inc.  
 STD LOT ID NO. CUS-881/H0377

DATE: 08/18/94  
 INSTRUMENT ID: GC2 PID/ELCD

COMPOUND	DETEC.	RT	MASS ng	AREA	CF	%DIFF	ACC RGE
Dichlorodifluoromethane	ELCD						<20
Vinyl chloride	ELCD						<20
Chloroethane	ELCD						<20
Trichlorofluoromethane	ELCD						<20
1,1,2-Trichloro-trifluoroethane	ELCD						<20
1,1-Dichloroethene (1,1-DCE)	ELCD	1.24	10	3975381	397538	-10.36	<20
Dichloromethane (Methylene chloride)	ELCD						<20
trans-1,2-Dichloroethene(t-1,2-DCE)	ELCD	1.69	10	4351241	435124	-10.50	<20
1,1-Dichloroethane (1,1-DCA)	ELCD	1.99	10	4712140	471214	-5.74	<20
cis-1,2-Dichloroethene (c-1,2-DCE)	ELCD	2.49	10	4666396	466640	-7.02	<20
Chloroform	ELCD						<20
1,1,1-Trichloroethane (1,1,1-TCA)	ELCD	3.01	10	5282631	528263	-5.62	<20
Carbon tetrachloride	ELCD						<20
Benzene	PID	3.46	10	132866	13287	0.69	<20
1,2-Dichloroethane (1,2-DCA)	ELCD	3.53	10	5072660	507266	-5.46	<20
Trichloroethene (TCE)	ELCD	4.56	10	5441547	544155	-6.39	<20
Toluene	PID	7.07	10	125055	12506	1.82	<20
1,1,2-Trichloroethane (1,1,2-TCA)	ELCD	7.86	10	5682145	568215	5.56	<20
Tetrachloroethene (PCE)	ELCD	7.99	10	6404558	640456	-0.02	<20
1,1,1,2-Tetrachloroethane	ELCD						<20
Ethylbenzene	PID						<20
m&p-Xylene	PID	9.76	10	129752	12975	1.45	<20
o-Xylene	PID	10.33	10	110461	11046	1.25	<20
1,1,2,2-Tetrachloroethane	ELCD						<20

## **Appendix C**

### **DAILY QC CHROMATOGRAMS**

**AeroVironment Inc.**Data Worksheet  
GC/PID/ELCD

Sample ID: MID STANDARD 1

Control #: LABQC

Project name: Geosystems

Sample date: 08/18/94

Project#: 300677

File name: 0818M12

Location: No. Hollywood

Analysis: 8010/8020

Analyst: Jay Berger

Sampled by: JB

Lab ID: Truck 1

GC ID: GC2 PID/ELCD

Sample type: MD1

Calib std: yes

Sample time: 10:23

Received time: NA

Injection time: 10:23

Probe depth: NA Feet

Purge volume: NA CC

Sample flow: NA CC/min

Vacuum: NA "H2O

Syringe: Hamilton 1uL

Dilution factor: 1

Calibration date: 07/22/94

Injection volume: 0.5 uL

Compound	Standard		Sample		
	RT	Avg. CF	RT	Area	mg/L
Dichlorodifluoromethane	0.59	138477			
Vinyl chloride	0.71	271379			
Chloroethane	0.87	195402			
Trichlorofluoromethane	0.97	290771			
1,1,2-Trichloro-trifluoroethane	1.23	334184			
1,1-Dichloroethene (1,1-DCE)	1.22	443468	1.24	4286960	19.33
Dichloromethane (Methylene chloride)	1.50	533175			
trans-1,2-Dichloroethene (t-1,2-DCE)	1.67	486172	1.68	4937207	20.31
1,1-Dichloroethane (1,1-DCA)	1.96	499909	1.98	5272051	21.09
cis-1,2-Dichloroethene (c-1,2-DCE)	2.46	501846	2.48	5179579	20.64
Chloroform	2.81	644803			
1,1,1-Trichloroethane (1,1,1-TCA)	2.97	559745	2.99	5821740	20.80
Carbon tetrachloride	3.16	660954			
Benzene	3.41	13196	3.44	133228	20.19
1,2-Dichloroethane (1,2-DCA)	3.48	536556	3.51	5614938	20.93
Trichloroethene (TCE)	4.52	581271	4.55	5896768	20.29
Toluene	7.02	12282	7.05	124493	20.27
1,1,2-Trichloroethane (1,1,2-TCA)	7.82	538285	7.84	5478431	20.36
Tetrachloroethene (PCE)	7.94	640559	7.97	6269731	19.58
1,1,1,2-Tetrachloroethane	9.49	607279			
Ethylbenzene	9.53	10974			
m&p-Xylene	9.73	12790	9.75	128882	20.15
o-Xylene	10.30	10909	10.32	109480	20.07
1,1,2,2-Tetrachloroethane	11.41	602475			

**Notes:**

1-"Standard RT" is the retention time for the standard.

2-"Standard AVE. CF" is the average calibration factor for this instrument.

3-"Sample area" is the area under the peak.

4-"Sample mg/L" is the concentration of the analyte in the sample

**AeroVironment Inc.****Analysis Results**

GC/PID/HALL

Sample ID: MID STANDARD 1

Control #: LABQC

Sample date: 08/18/94

Project#: 300677

Location: No. Hollywood

Analysis: 8010/8020

Sample type: MD1

Sampled by: JB

Sample time: 10:23

Probe depth: NA

Vacuum: NA

Feet

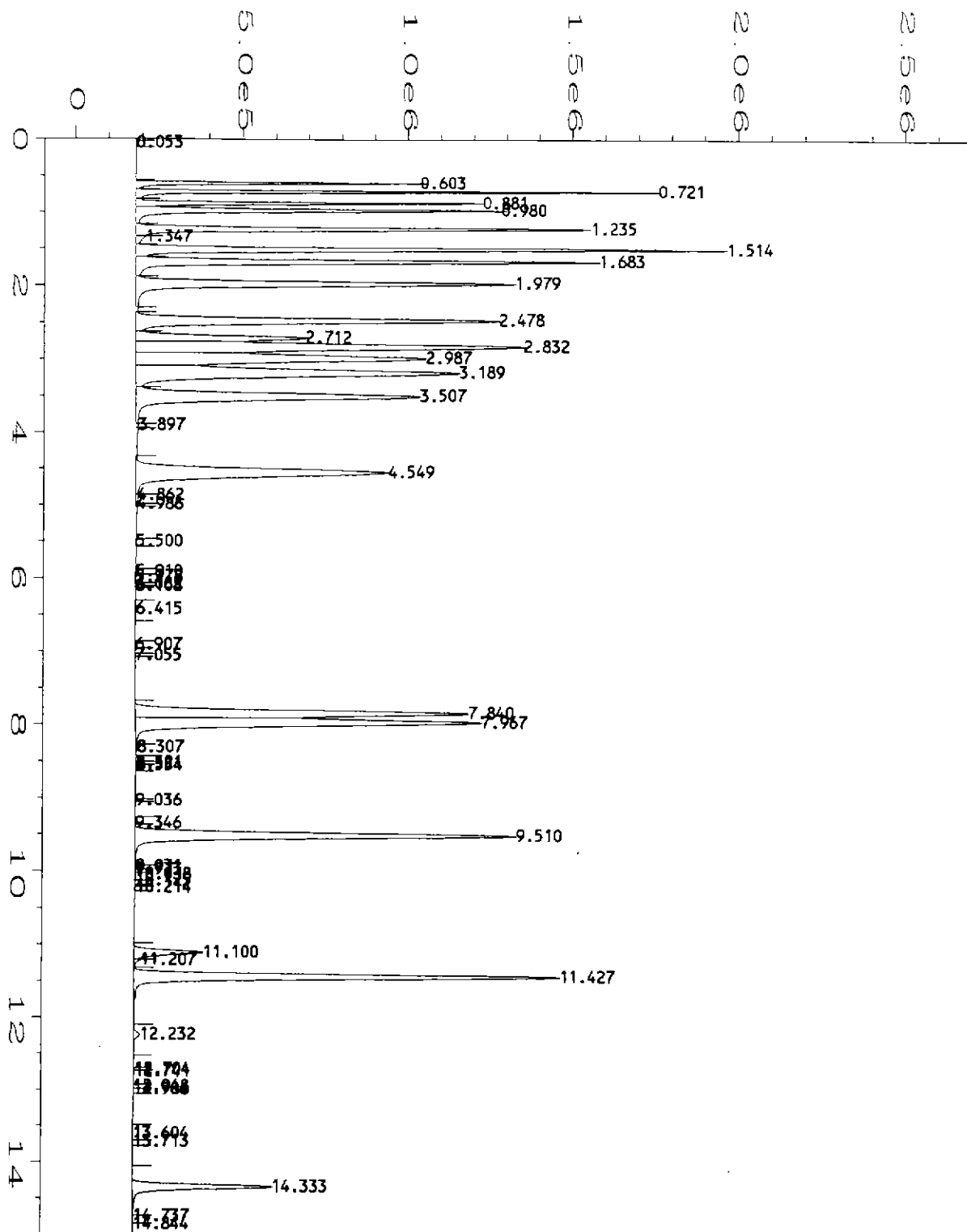
"H2O

Compound	MDL ug/L	Sample mg/L	reference mg/L	percent different
Dichlorodifluoromethane	0.42			
Vinyl chloride	0.16			
Chloroethane	0.10			
Trichlorofluoromethane	0.21			
1,1,2-Trichloro-trifluoroethane	0.10			
1,1-Dichloroethene (1,1-DCE)	0.18	19.33	20	-3.3
Dichloromethane (Methylene chloride)	0.15			
trans-1,2-Dichloroethene(t-1,2-DCE)	0.18	20.31	20	1.6
1,1-Dichloroethane (1,1-DCA)	0.17	21.09	20	5.5
cis-1,2-Dichloroethene (c-1,2-DCE)	0.16	20.64	20	3.2
Chloroform	0.22			
1,1,1-Trichloroethane (1,1,1-TCA)	0.19	20.80	20	4.0
Carbon tetrachloride	0.53			
Benzene	0.87	20.19	20	1.0
1,2-Dichloroethane (1,2-DCA)	0.26	20.93	20	4.6
Trichloroethene (TCE)	0.16	20.29	20	1.4
Toluene	0.18	20.27	20	1.4
1,1,2-Trichloroethane (1,1,2-TCA)	0.17	20.36	20	1.8
Tetrachloroethene (PCE)	0.21	19.58	20	-2.1
1,1,1,2-Tetrachloroethane	0.31			
Ethylbenzene	0.23			
m&p-Xylene	0.27	20.15	20	0.8
o-Xylene	0.41	20.07	20	0.4
1,1,2,2-Tetrachloroethane	0.22			

**Notes:**

1-"MDL ug/L" is the method limit.

2-"Sample mg/L" is the concentration of the analyte in the sample



Data File Name : C:\HPCHEM\1\DATA\0818HM12.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : MID STD. 1  
 Run Time Bar Code:  
 Acquired on : 18 Aug 94 10:23 AM  
 Report Created on: 18 Aug 94 10:39 AM  
 Sample Info : 0815M1 CUS 20 PPM STD.

Page Number : 1  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\1\DATA\0818HM12.D  
Operator : JAY BERGER  
Instrument : INSTRUMEN  
Sample Name : MID STD. 1  
Run Time Bar Code:  
Acquired on : 18 Aug 94 10:23 AM  
Report Created on: 18 Aug 94 10:39 AM

Page Number : 2  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

Sig. 1 in C:\HPCHEM\1\DATA\0818HM12.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.053	1470	762	BV	0.030	0.0015
2	0.603	1560091	885694	PV	0.027	1.6279
3	0.721	2870300	1585932	VV	0.027	2.9951
4	0.881	2176821	1051767	VV	0.031	2.2714
5	0.980	3217763	1120917	VV	0.043	3.3576
6	1.235	4286960	1381611	VV	0.048	4.4733
7	1.347	125858	29549	VV	0.055	0.1313
8	1.514	5616832	1788815	VV	0.047	5.8610
9	1.683	4937207	1403031	VV	0.054	5.1518
10	1.979	5272051	1149411	VV	0.068	5.5012
11	2.478	5179579	1099051	VV	0.075	5.4047
12	2.712	2371108	512974	VV	0.070	2.4742
13	2.832	6732321	1183332	VV	0.085	7.0250
14	2.987	5821740	875162	VV	0.093	6.0748
15	3.189	6884332	979103	VV	0.102	7.1836
16	3.507	5614938	858058	VV	0.094	5.8590
17	3.897	25737	8667	VV	0.039	0.0269
18	4.549	5896768	762494	VV	0.110	6.1531
19	4.862	46508	6863	VV	0.113	0.0485
20	4.986	14181	5593	VV	0.035	0.0148
21	5.500	16929	3312	VV	0.065	0.0177
22	5.910	10383	2881	VV	0.049	0.0108
23	5.978	12703	2487	VV	0.064	0.0133

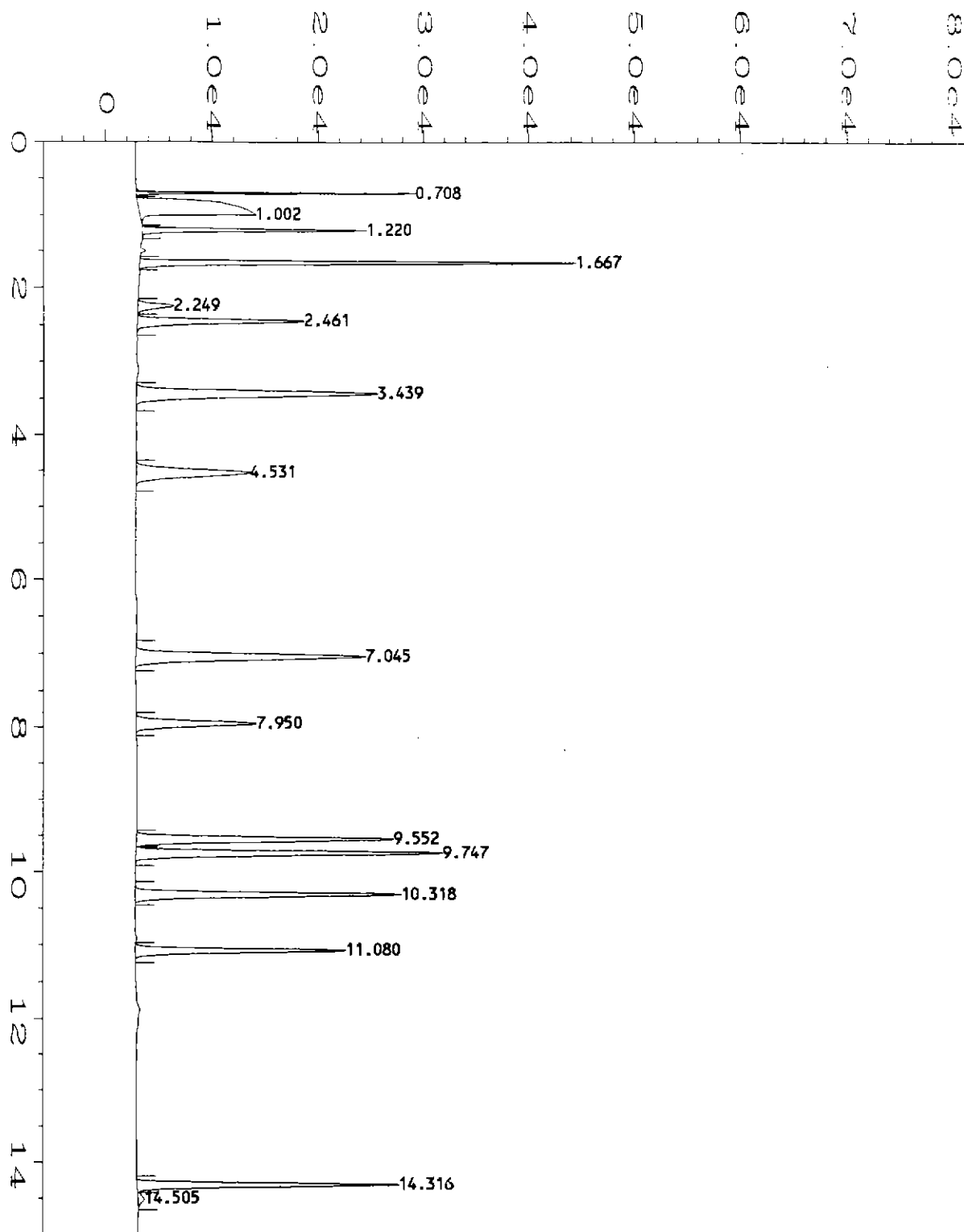
Data File Name : C:\HPCHEM\1\DATA\0818HM12.D  
 Operator : JAY BERGER Page Number : 3  
 Instrument : INSTRUMEN Vial Number :  
 Sample Name : MID STD. 1 Injection Number :  
 Run Time Bar Code: Sequence Line :  
 Acquired on : 18 Aug 94 10:23 AM Instrument Method: SG-1.MTH  
 Report Created on: 18 Aug 94 10:39 AM Analysis Method : SG-1.MTH

24	6.082	3702	1956	VV	0.032	0.0039
25	6.108	3112	1813	VV	0.029	0.0032
26	6.415	28241	2591	VV	0.136	0.0295
27	6.907	3810	1026	VV	0.049	0.0040
28	7.055	473	276	PV	0.029	0.0005
29	7.840	5478431	1005738	PV	0.081	5.7166
30	7.967	6269731	1045945	VV	0.090	6.5423
31	8.307	30436	5106	VV	0.074	0.0318
32	8.521	1734	1078	VV	0.028	0.0018
33	8.554	2535	760	VV	0.046	0.0026
34	9.036	722	602	PV	0.020	0.0008
35	9.346	3126	853	PV	0.047	0.0033
36	9.510	6121552	1153927	VV	0.078	6.3877
37	9.931	9686	2855	VV	0.048	0.0101
38	9.973	8072	2723	VV	0.049	0.0084
39	10.038	16310	3450	VV	0.061	0.0170
40	10.125	8018	2724	VV	0.049	0.0084
41	10.214	6640	2743	VV	0.032	0.0069
42	11.100	944279	205773	PV	0.068	0.9853
43	11.207	50749	18239	VV	0.038	0.0530
44	11.427	6146667	1287306	VV	0.074	6.4139
45	12.232	99932	17555	VV	0.087	0.1043
46	12.704	3342	2077	BV	0.027	0.0035
47	12.741	8758	2495	VV	0.058	0.0091
48	12.948	1454	684	PV	0.035	0.0015
49	12.986	2312	1094	VV	0.032	0.0024
50	13.604	2798	695	BV	0.062	0.0029
51	13.713	2131	998	VV	0.036	0.0022
52	14.333	1871176	418014	BV	0.069	1.9525
53	14.737	7817	1654	VV	0.079	0.0082
54	14.844	3753	818	VB	0.076	0.0039

Total area = 9.58341E+007

=====





Data File Name : C:\HPCHEM\1\DATA\0818PM12.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : MID STD. 1  
 Run Time Bar Code:  
 Acquired on : 18 Aug 94 10:23 AM  
 Report Created on: 18 Aug 94 10:39 AM  
 Sample Info : 0815M1 CUS 20 PPM STD.

Page Number : 1  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\1\DATA\0818PM12.D  
Operator : JAY BERGER  
Instrument : INSTRUMEN  
Sample Name : MID STD. 1  
Run Time Bar Code:  
Acquired on : 18 Aug 94 10:23 AM  
Report Created on: 18 Aug 94 10:39 AM

Page Number : 2  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

Sig. 2 in C:\HPCHEM\1\DATA\0818PM12.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.708	27326	26796	VV	0.016	2.0667
2	1.002	124073	10838	PB	0.141	9.3840
3	1.220	52891	21139	BB	0.039	4.0003
4	1.667	115530	41339	BV	0.044	8.7379
5	2.249	15227	3369	BV	0.070	1.1516
6	2.461	65792	15673	VB	0.066	4.9760
7	3.439	133228	22762	BB	0.091	10.0764
8	4.531	77755	10761	BB	0.114	5.8808
9	7.045	124493	21627	BB	0.091	9.4157
10	7.950	60385	11303	BV	0.084	4.5671
11	9.552	110064	24356	BV	0.071	8.3244
12	9.747	128882	29061	VB	0.070	9.7476
13	10.318	109480	25124	BB	0.069	8.2802
14	11.080	79189	19810	VB	0.063	5.9893
15	14.316	93696	24764	BV	0.059	7.0864
16	14.505	4172	584	VB	0.108	0.3156

Total area = 1322183

=====



**AeroVironment Inc.**Data Worksheet  
GC/PID/ELCDSample ID: QC STANDARD 1  
Control #: LABQCProject name: Geosystems  
Sample date: 08/18/94  
Project#: 300677  
File name: 0818Q12  
Location: No. Hollywood  
Analysis: 8010/8020  
Analyst: Jay Berger  
Sampled by: JB  
Lab ID: Truck 1  
GC ID: GC2 PID/ELCD  
Sample type: QC1  
Calib std: yesSample time: 16:05  
Received time: NA  
Injection time: 16:05  
Probe depth: NA Feet  
Purge volume: NA CC  
Sample flow: NA CC/min  
Vacuum: NA "H2O  
Syringe: Hamilton 1uL  
Dilution factor: 1  
Calibration date: 07/22/94  
Injection volume: 0.5 uL

Compound	Standard RT	Avg. CF	Sample RT	Area	mg/L
Dichlorodifluoromethane	0.59	138477			
Vinyl chloride	0.71	271379			
Chloroethane	0.87	195402			
Trichlorofluoromethane	0.97	290771			
1,1,2-Trichloro-trifluoroethane	1.23	334184			
1,1-Dichloroethene (1,1-DCE)	1.22	443468	1.24	3975381	17.93
Dichloromethane (Methylene chloride)	1.50	533175			
trans-1,2-Dichloroethene(t-1,2-DCE)	1.67	486172	1.69	4351241	17.90
1,1-Dichloroethane (1,1-DCA)	1.96	499909	1.99	4712140	18.85
cis-1,2-Dichloroethene (c-1,2-DCE)	2.46	501846	2.49	4666396	18.60
Chloroform	2.81	644803			
1,1,1-Trichloroethane (1,1,1-TCA)	2.97	559745	3.01	5282631	18.88
Carbon tetrachloride	3.16	660954			
Benzene	3.41	13196	3.46	132866	20.14
1,2-Dichloroethane (1,2-DCA)	3.48	536556	3.53	5072660	18.91
Trichloroethene (TCE)	4.52	581271	4.56	5441547	18.72
Toluene	7.02	12282	7.07	125055	20.36
1,1,2-Trichloroethane (1,1,2-TCA)	7.82	538285	7.86	5682145	21.11
Tetrachloroethene (PCE)	7.94	640559	7.99	6404558	20.00
1,1,1,2-Tetrachloroethane	9.49	607279			
Ethylbenzene	9.53	10974			
m&p-Xylene	9.73	12790	9.76	129752	20.29
o-Xylene	10.30	10909	10.33	110461	20.25
1,1,2,2-Tetrachloroethane	11.41	602475			

**Notes:**

- 1-"Standard RT" is the retention time for the standard.
- 2-"Standard AVE. CF" is the average calibration factor for this instrument.
- 3-"Sample area" is the area under the peak.
- 4-"Sample mg/L" is the concentration of the analyte in the sample

**AeroVironment Inc.****Analysis Results**

GC/PID/HALL

Sample ID: QC STANDARD 1

Control #: LABQC

Sample date: 08/18/94

Project#: 300677

Location: No. Hollywood

Analysis: 8010/8020

Sample type: QC1

Sampled by: JB

Sample time: 16:05

Probe depth: NA

Vacuum: NA

Feet

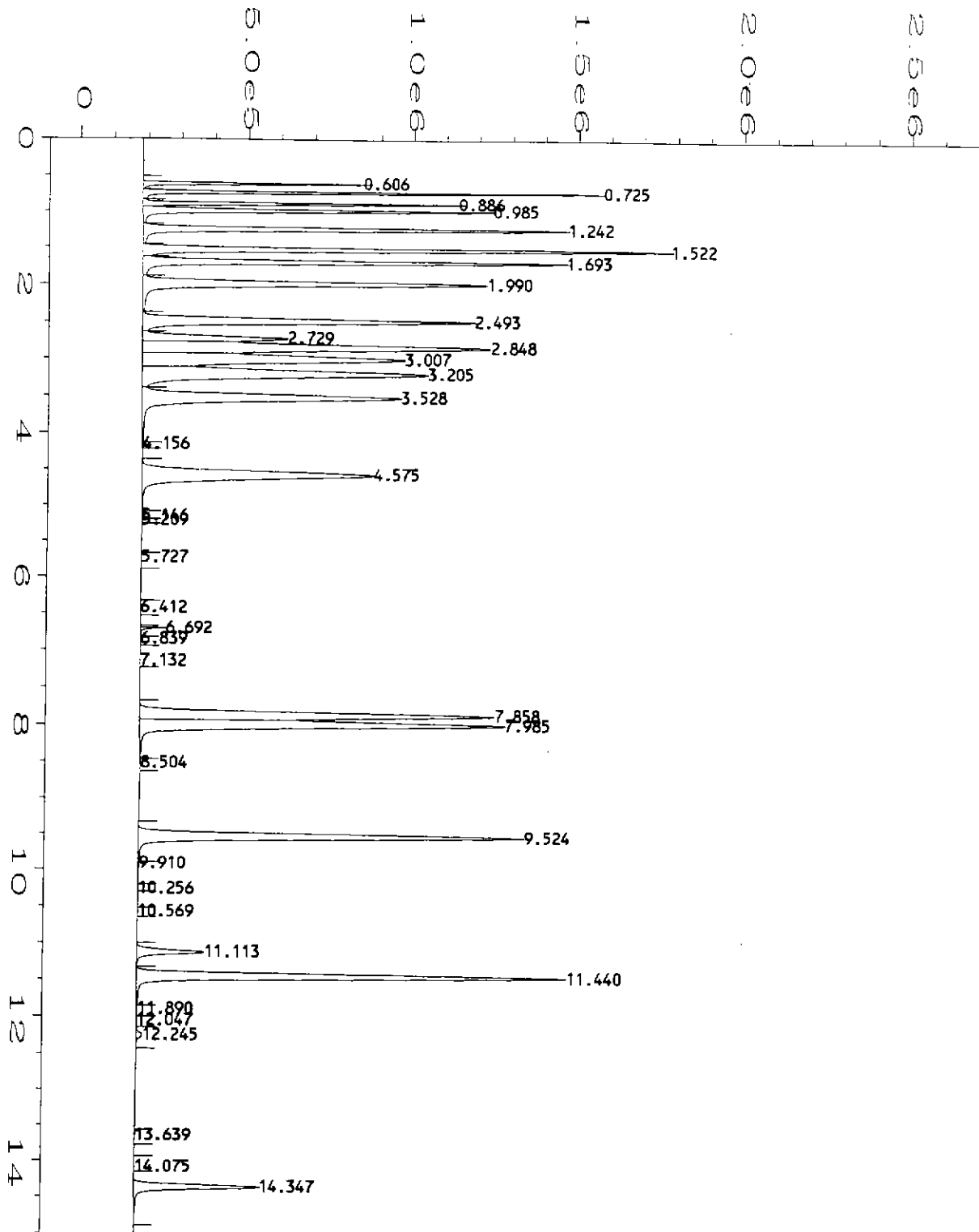
"H2O

Compound	MDL ug/L	Sample mg/L	reference mg/L	percent different
Dichlorodifluoromethane	0.42			
Vinyl chloride	0.16			
Chloroethane	0.10			
Trichlorofluoromethane	0.21			
1,1,2-Trichloro-trifluoroethane	0.10			
1,1-Dichloroethene (1,1-DCE)	0.18	17.93	20	-10.4
Dichloromethane (Methylene chloride)	0.15			
trans-1,2-Dichloroethene(t-1,2-DCE)	0.18	17.90	20	-10.5
1,1-Dichloroethane (1,1-DCA)	0.17	18.85	20	-5.7
cis-1,2-Dichloroethene (c-1,2-DCE)	0.16	18.60	20	-7.0
Chloroform	0.22			
1,1,1-Trichloroethane (1,1,1-TCA)	0.19	18.88	20	-5.6
Carbon tetrachloride	0.53			
Benzene	0.87	20.14	20	0.7
1,2-Dichloroethane (1,2-DCA)	0.26	18.91	20	-5.5
Trichloroethene (TCE)	0.16	18.72	20	-6.4
Toluene	0.18	20.36	20	1.8
1,1,2-Trichloroethane (1,1,2-TCA)	0.17	21.11	20	5.6
Tetrachloroethene (PCE)	0.21	20.00	20	
1,1,1,2-Tetrachloroethane	0.31			
Ethylbenzene	0.23			
m&p-Xylene	0.27	20.29	20	1.4
o-Xylene	0.41	20.25	20	1.3
1,1,2,2-Tetrachloroethane	0.22			

**Notes:**

1-"MDL ug/L" is the method limit.

2-"Sample mg/L" is the concentration of the analyte in the sample



Data File Name : C:\HPCHEM\1\DATA\0818HQ12.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : QC STD. 1  
 Run Time Bar Code:  
 Acquired on : 18 Aug 94 04:05 PM  
 Report Created on: 18 Aug 94 04:20 PM  
 Sample Info : 0815Q1 CUS 20 PPM STD.

Page Number : 1  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\1\DATA\0818HQ12.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : QC STD. 1  
 Run Time Bar Code:  
 Acquired on : 18 Aug 94 04:05 PM  
 Report Created on: 18 Aug 94 04:20 PM

Page Number : 2  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Sig. 1 in C:\HPCHEM\1\DATA\0818HQ12.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.606	1079071	690554	BV	0.024	1.2311
2	0.725	2313714	1410903	VV	0.025	2.6397
3	0.886	1898604	978192	VV	0.030	2.1661
4	0.985	2892972	1064015	VV	0.042	3.3006
5	1.242	3975381	1291750	VV	0.047	4.5355
6	1.522	4931108	1607263	VV	0.047	5.6259
7	1.693	4351241	1289714	VV	0.052	4.9643
8	1.990	4712140	1039362	VV	0.070	5.3761
9	2.493	4666396	1006667	VV	0.072	5.3239
10	2.729	1975022	437479	VV	0.069	2.2533
11	2.848	6058829	1053147	VV	0.088	6.9125
12	3.007	5282631	791968	VV	0.103	6.0270
13	3.205	6061645	863141	VV	0.107	6.9157
14	3.528	5072660	782244	VV	0.100	5.7874
15	4.156	15633	3683	VV	0.060	0.0178
16	4.575	5441547	699053	VV	0.123	6.2083
17	5.146	13223	2352	VV	0.077	0.0151
18	5.209	7942	2215	VV	0.054	0.0091
19	5.727	5212	783	PB	0.089	0.0059
20	6.412	4985	815	PV	0.092	0.0057
21	6.692	99675	73946	PV	0.042	0.1137
22	6.839	6577	1303	VV	0.068	0.0075

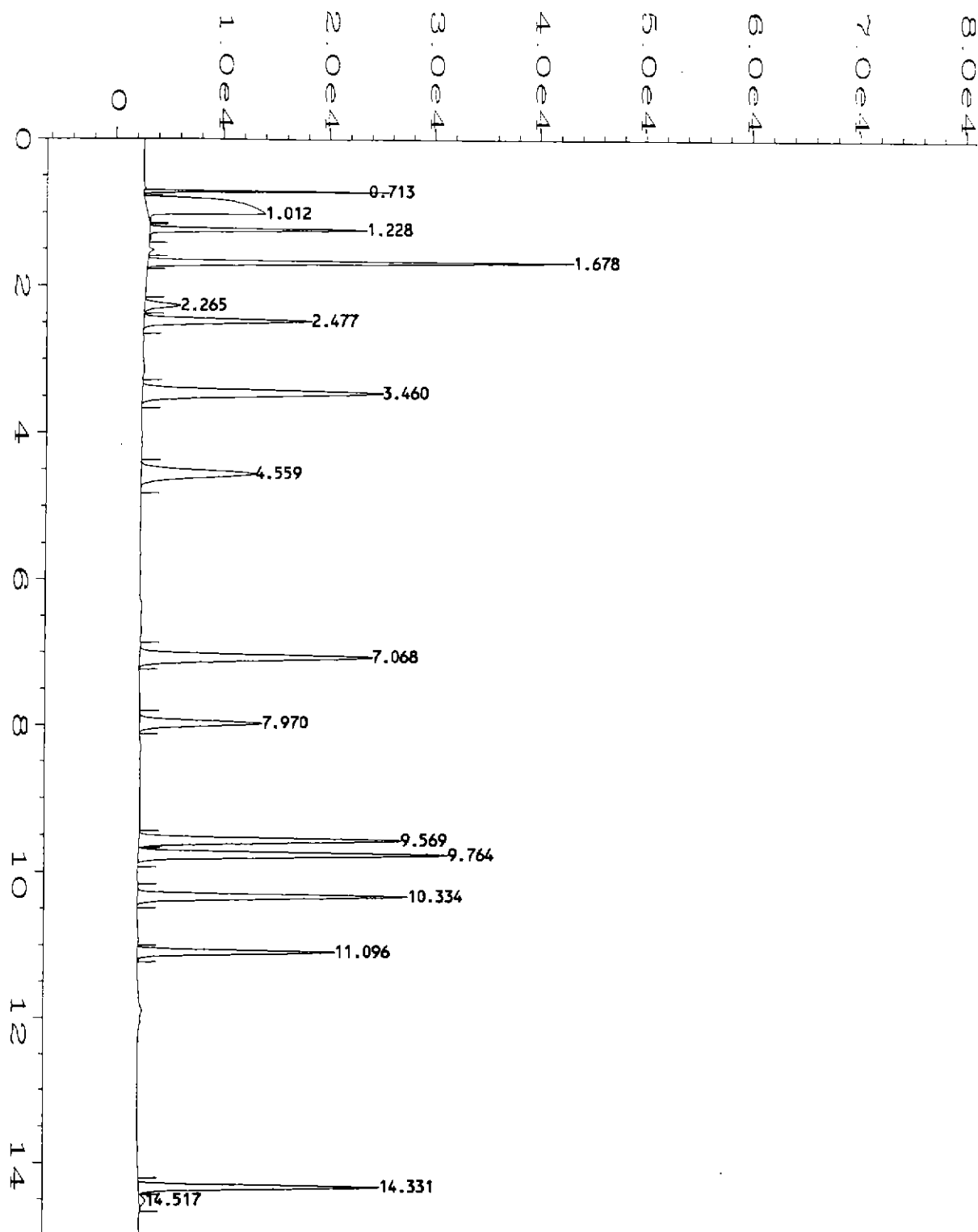
Data File Name : C:\HPCHEM\1\DATA\0818HQ12.D  
Operator : JAY BERGER Page Number : 3  
Instrument : INSTRUMEN Vial Number :  
Sample Name : QC STD. 1 Injection Number :  
Run Time Bar Code: Sequence Line :  
Acquired on : 18 Aug 94 04:05 PM Instrument Method: SG-1.MTH  
Report Created on: 18 Aug 94 04:20 PM Analysis Method : SG-1.MTH

23	7.132	6062	517	VV	0.150	0.0069
24	7.858	5682145	1071302	PV	0.081	6.4828
25	7.985	6404558	1105268	VV	0.088	7.3070
26	8.504	10680	1911	VV	0.076	0.0122
27	9.524	6064795	1166951	PV	0.081	6.9193
28	9.910	30835	2604	VV	0.147	0.0352
29	10.256	6826	1485	VV	0.063	0.0078
30	10.569	5746	1304	VV	0.066	0.0066
31	11.113	896930	200393	PV	0.070	1.0233
32	11.440	5897741	1299188	VV	0.071	6.7287
33	11.890	17108	2399	VV	0.092	0.0195
34	12.047	10358	1366	VV	0.107	0.0118
35	12.245	90390	17266	VV	0.079	0.1031
36	13.639	3187	1101	BV	0.050	0.0036
37	14.075	1941	709	BV	0.049	0.0022
38	14.347	1654472	376269	PV	0.067	1.8876

Total area = 8.765E+007

=====





Data File Name : C:\HPCHEM\1\DATA\0818PQ12.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : QC STD. 1  
 Run Time Bar Code:  
 Acquired on : 18 Aug 94 04:05 PM  
 Report Created on: 18 Aug 94 04:20 PM  
 Sample Info : 0815Q1 CUS 20 PPM STD.

Page Number : 1  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\1\DATA\0818PQ12.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : QC STD. 1  
 Run Time Bar Code:  
 Acquired on : 18 Aug 94 04:05 PM  
 Report Created on: 18 Aug 94 04:20 PM

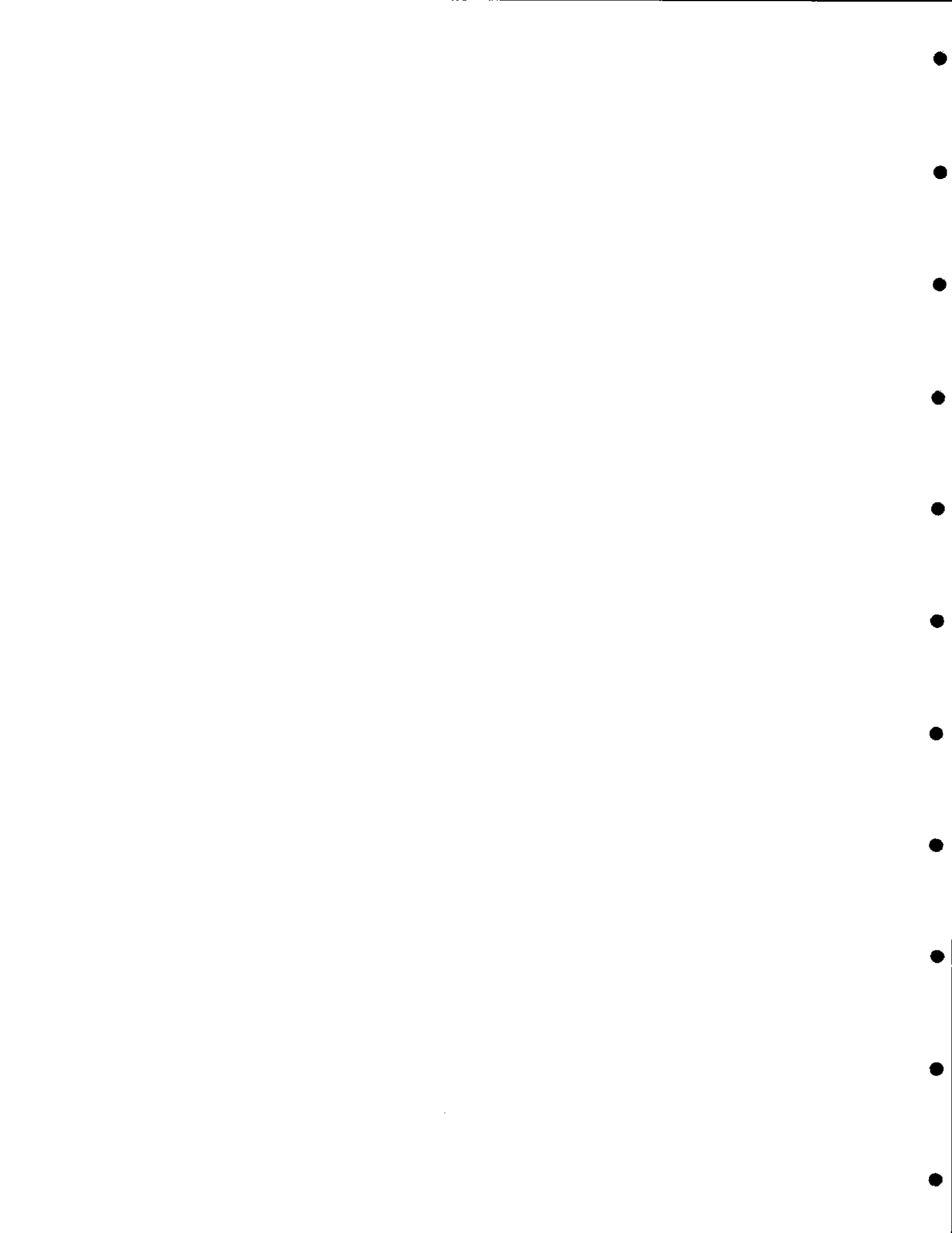
Page Number : 2  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Sig. 2 in C:\HPCHEM\1\DATA\0818PQ12.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.713	23660	23308	VV	0.017	1.8021
2	1.012	129681	11003	PB	0.145	9.8778
3	1.228	52495	20490	BB	0.040	3.9986
4	1.678	113077	40365	BB	0.044	8.6130
5	2.265	15502	3376	BV	0.071	1.1808
6	2.477	66043	15752	VB	0.065	5.0305
7	3.460	132866	22677	BB	0.092	10.1203
8	4.559	77713	10691	BB	0.114	5.9194
9	7.068	125055	21879	BB	0.091	9.5254
10	7.970	60725	11471	BB	0.083	4.6254
11	9.569	111626	24693	BV	0.071	8.5025
12	9.764	129752	29234	VB	0.069	9.8831
13	10.334	110461	25442	BB	0.068	8.4138
14	11.096	73546	18535	BB	0.062	5.6020
15	14.331	86763	22710	BV	0.060	6.6087
16	14.517	3893	555	VB	0.105	0.2965

Total area = 1312860

=====



**Appendix D**

**THREE POINT CALIBRATION CURVE RESULTS  
WITH CHROMATOGRAMS**

# SOIL GAS INITIAL CALIBRATION

SITE NAME: Monrovia

LAB NAME: AeroVironment Inc.

DATE: 07/22/94

ANALYST: Jay Berger

STD LOT ID NO. CUS-881/H-0911&HC-480/H-0054

INSTRUMENT ID: GC2/PID/ELCD

NORMAL INJECTION VOLUME: 0.5uL

COMPOUND	DETECTOR	AVE. CF	SD	%RSD	ACC RGE
Dichlorodifluoromethane	ELCD	138477	18474	13.34	<30
Vinyl chloride	ELCD	271379	17755	6.54	<30
Chloroethane	ELCD	195402	14292	7.31	<30
Trichlorofluoromethane	ELCD	290771	19904	6.85	<30
1,1,2-Trichloro-trifluoroethane	ELCD	334184	8527	2.55	<30
1,1-Dichloroethene (1,1-DCE)	ELCD	443468	32509	7.33	<20
Dichloromethane (Methylene chloride)	ELCD	533175	39117	7.34	<20
trans-1,2-Dichloroethene(t-1,2-DCE)	ELCD	486172	44920	9.24	<20
1,1-Dichloroethane (1,1-DCA)	ELCD	499909	38626	7.73	<20
cis-1,2-Dichloroethene (c-1,2-DCE)	ELCD	501846	38981	7.77	<20
Chloroform	ELCD	644803	45839	7.11	<20
1,1,1-Trichloroethane (1,1,1-TCA)	ELCD	559745	39499	7.06	<20
Carbon tetrachloride	ELCD	660954	47544	7.19	<20
Benzene	PID	13196	710	5.38	<20
1,2-Dichloroethane (1,2-DCA)	ELCD	536556	44460	8.29	<20
Trichloroethene (TCE)	ELCD	581271	44525	7.66	<20
Toluene	PID	12282	641	5.22	<20
1,1,2-Trichloroethane (1,1,2-TCA)	ELCD	538285	30075	5.59	<20
Tetrachloroethene (PCE)	ELCD	640559	47345	7.39	<20
1,1,1,2-Tetrachloroethane	ELCD	607279	39377	6.48	<20
Ethylbenzene	PID	10974	498	4.53	<20
m&p-Xylene	PID	12790	606	4.74	<20
o-Xylene	PID	10909	576	5.28	<20
1,1,2,2-Tetrachloroethane	ELCD	602475	43074	7.15	<20

# SOIL GAS INITIAL CALIBRATION

SITE NAME: Monrovia

LAB NAME: AeroVironment Inc.

DATE: 07/22/94

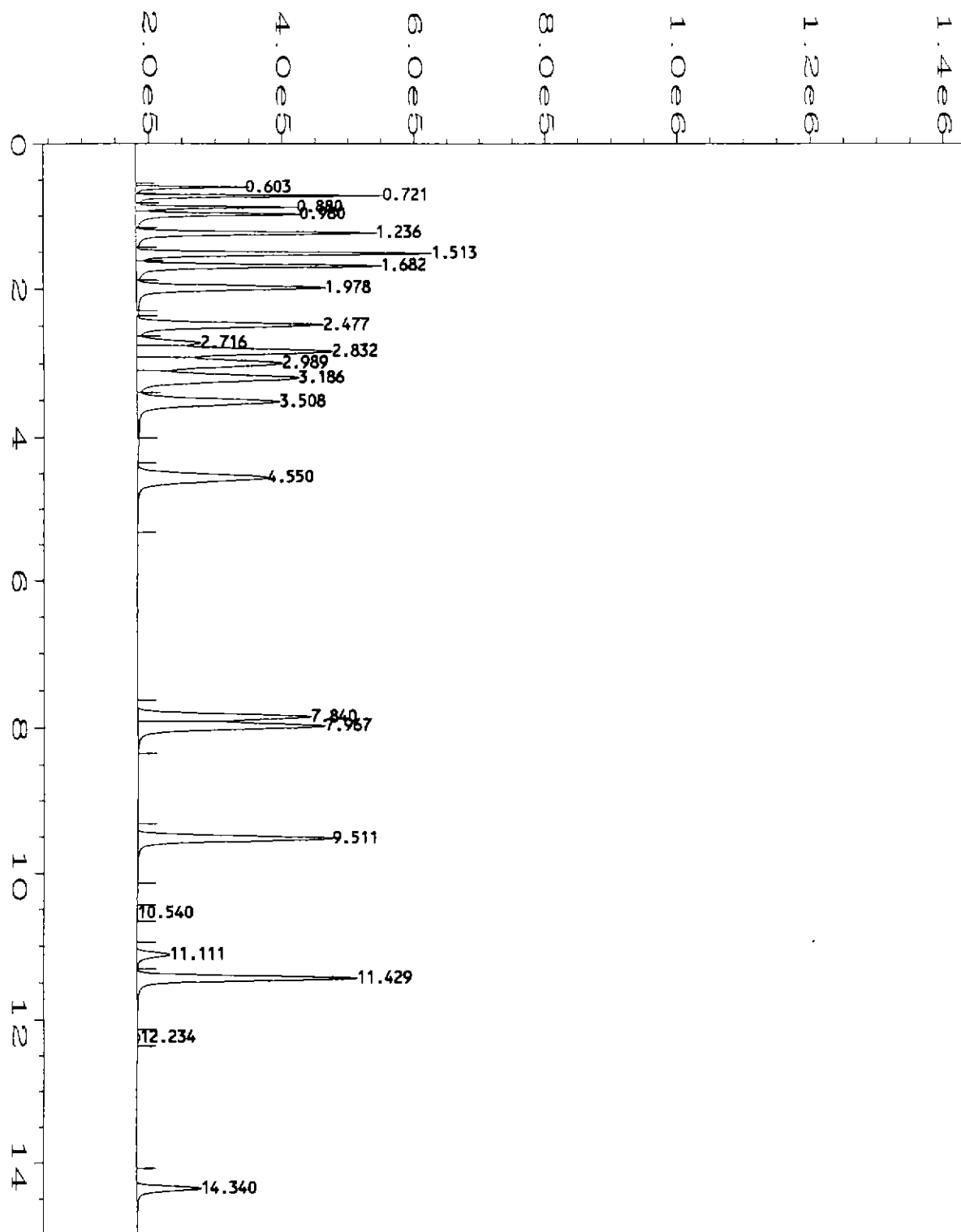
ANALYST: Jay Berger

STD LOT ID NO. CUS-881/H-0911&HC-480/H-0054

INSTRUMENT ID: GC2/PID/ELCD

NORMAL INJECTION VOLUME: 0.5uL

COMPOUND	DETECTOR	1ST				2 ND				3 RD			
		RT	AREA	ng	CF	RT	AREA	ng	CF	RT	AREA	ng	CF
Dichlorodifluoromethane	ELCD	0.60	303351	2.5	121340	0.59	1580478	10.0	158048	0.59	3401045	25.0	136042
Vinyl chloride	ELCD	0.72	690534	2.5	276214	0.71	2862161	10.0	286216	0.71	6292684	25.0	251707
Chloroethane	ELCD	0.88	511234	2.5	204494	0.87	2027833	10.0	202783	0.87	4473223	25.0	178929
Trichlorofluoromethane	ELCD	0.98	756879	2.5	302752	0.97	3017660	10.0	301766	0.96	6694873	25.0	267795
1,1,2-Trichloro-trifluoroethane	ELCD	1.22	823818	2.5	329527	1.23	3440256	10.0	344026	1.24	8224972	25.0	328999
1,1-Dichloroethene (1,1-DCE)	ELCD	1.24	1179137	2.5	471655	1.22	4508452	10.0	450845	1.22	1E+07	25.0	407904
Dichloromethane (Methylene chloride)	ELCD	1.51	1421935	2.5	568774	1.50	5394522	10.0	539452	1.49	1.2E+07	25.0	491300
trans-1,2-Dichloroethene(t-1,2-DCE)	ELCD	1.68	1326839	2.5	530736	1.67	4868767	10.0	486877	1.66	1.1E+07	25.0	440904
1,1-Dichloroethane (1,1-DCA)	ELCD	1.99	1343439	2.5	537376	1.96	5021305	10.0	502131	1.95	1.2E+07	25.0	460220
cis-1,2-Dichloroethene (c-1,2-DCE)	ELCD	2.48	1346493	2.5	538597	2.46	5059770	10.0	505977	2.44	1.2E+07	25.0	460964
Chloroform	ELCD	2.83	1716071	2.5	686428	2.81	6523043	10.0	652304	2.79	1.5E+07	25.0	595676
1,1,1-Trichloroethane (1,1,1-TCA)	ELCD	2.99	1492643	2.5	597057	2.97	5638056	10.0	563806	2.95	1.3E+07	25.0	518372
Carbon tetrachloride	ELCD	3.19	1759530	2.5	703812	3.16	6692393	10.0	669239	3.14	1.5E+07	25.0	609812
Benzene	PID	3.44	34692	2.5	13877	3.41	132494	10.0	13249	3.39	311516	25.0	12461
1,2-Dichloroethane (1,2-DCA)	ELCD	3.51	1447439	2.5	578976	3.48	5403894	10.0	540389	3.46	1.2E+07	25.0	490304
Trichloroethene (TCE)	ELCD	4.55	1555057	2.5	622023	4.52	5880433	10.0	588043	4.49	1.3E+07	25.0	533748
Toluene	PID	7.05	32249	2.5	12900	7.02	123253	10.0	12325	7.00	290512	25.0	11620
1,1,2-Trichloroethane (1,1,2-TCA)	ELCD	7.84	1408521	2.5	563408	7.82	5464875	10.0	546488	7.80	1.3E+07	25.0	504960
Tetrachloroethene (PCE)	ELCD	7.97	1709118	2.5	683647	7.94	6481551	10.0	648155	7.92	1.5E+07	25.0	589876
1,1,1,2-Tetrachloroethane	ELCD	9.51	1602740	2.5	641096	9.49	6166922	10.0	616692	9.47	1.4E+07	25.0	564048
Ethylbenzene	PID	9.55	28659	2.5	11464	9.53	109882	10.0	10988	9.52	261719	25.0	10469
m&p-Xylene	PID	9.75	33451	2.5	13380	9.73	128194	10.0	12819	9.71	304242	25.0	12170
o-Xylene	PID	10.32	28702	2.5	11481	10.30	109195	10.0	10920	10.28	258202	25.0	10328
1,1,2,2-Tetrachloroethane	ELCD	11.43	1606650	2.5	642660	11.41	6077651	10.0	607765	11.40	1.4E+07	25.0	557000



Data File Name : C:\HPCHEM\1\DATA\0722HL12.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : LOW STD. 1  
 Run Time Bar Code:  
 Acquired on : 22 Jul 94 09:44 AM  
 Report Created on: 22 Jul 94 09:59 AM  
 Sample Info : 0721Q3 CUS 5 PPM STD.

Page Number : 1  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\1\DATA\0722HL12.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : LOW STD. 1  
 Run Time Bar Code:  
 Acquired on : 22 Jul 94 09:44 AM  
 Report Created on: 22 Jul 94 09:59 AM

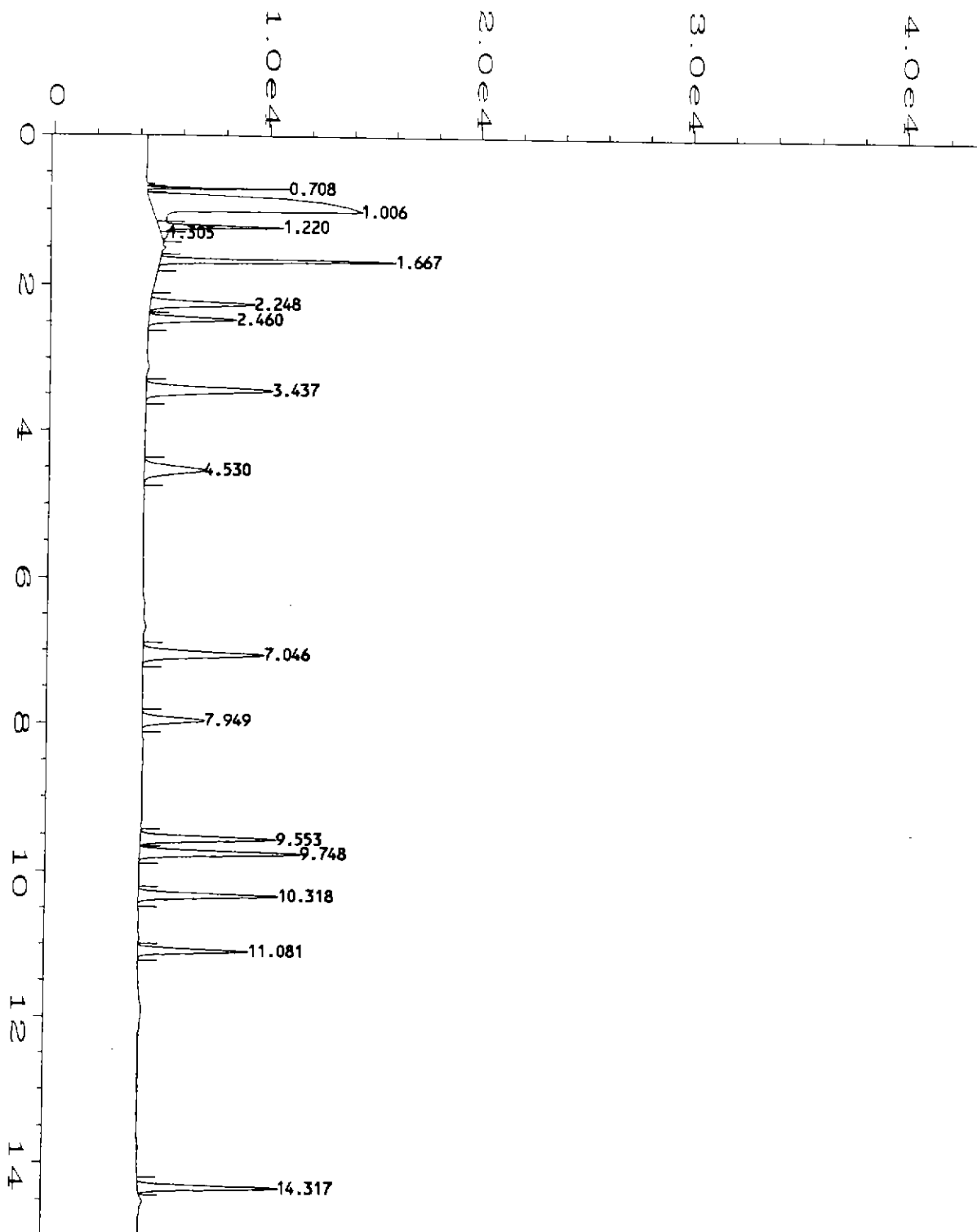
Page Number : 2  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Sig. 1 in C:\HPCHEM\1\DATA\0722HL12.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.603	303351	171344	PV	0.026	1.2449
2	0.721	690534	375129	VV	0.027	2.8339
3	0.880	511234	242937	VV	0.032	2.0981
4	0.980	756879	248901	VV	0.045	3.1062
5	1.236	1179137	363533	VV	0.049	4.8392
6	1.513	1421935	446968	VV	0.049	5.8356
7	1.682	1326839	371223	VV	0.054	5.4453
8	1.978	1343439	285118	VV	0.071	5.5135
9	2.477	1346493	281620	VV	0.073	5.5260
10	2.716	427351	95564	VV	0.067	1.7538
11	2.832	1716071	294692	VV	0.089	7.0427
12	2.989	1492643	219107	VV	0.104	6.1258
13	3.186	1759530	244694	VV	0.110	7.2211
14	3.508	1447439	214533	VV	0.103	5.9403
15	4.550	1555057	196150	VB	0.123	6.3819
16	7.840	1408521	261558	BV	0.082	5.7806
17	7.967	1709118	282966	VV	0.091	7.0142
18	9.511	1602740	294864	BV	0.084	6.5776
19	10.540	3844	543	PV	0.095	0.0158
20	11.111	247048	49173	BV	0.076	1.0139
21	11.429	1606650	332383	VV	0.074	6.5937
22	12.234	20533	4253	PV	0.077	0.0843
23	14.340	490116	97337	BBA	0.076	2.0114

Total area = 2.43665E+007





Data File Name : C:\HPCHEM\1\DATA\0722PL12.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : LOW STD. 1  
 Run Time Bar Code:  
 Acquired on : 22 Jul 94 09:44 AM  
 Report Created on: 22 Jul 94 09:59 AM  
 Sample Info : 0721Q3 CUS 5 PPM STD.

Page Number : 1  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\1\DATA\0722PL12.D  
Operator : JAY BERGER  
Instrument : INSTRUMEN  
Sample Name : LOW STD. 1  
Run Time Bar Code:  
Acquired on : 22 Jul 94 09:44 AM  
Report Created on: 22 Jul 94 09:59 AM

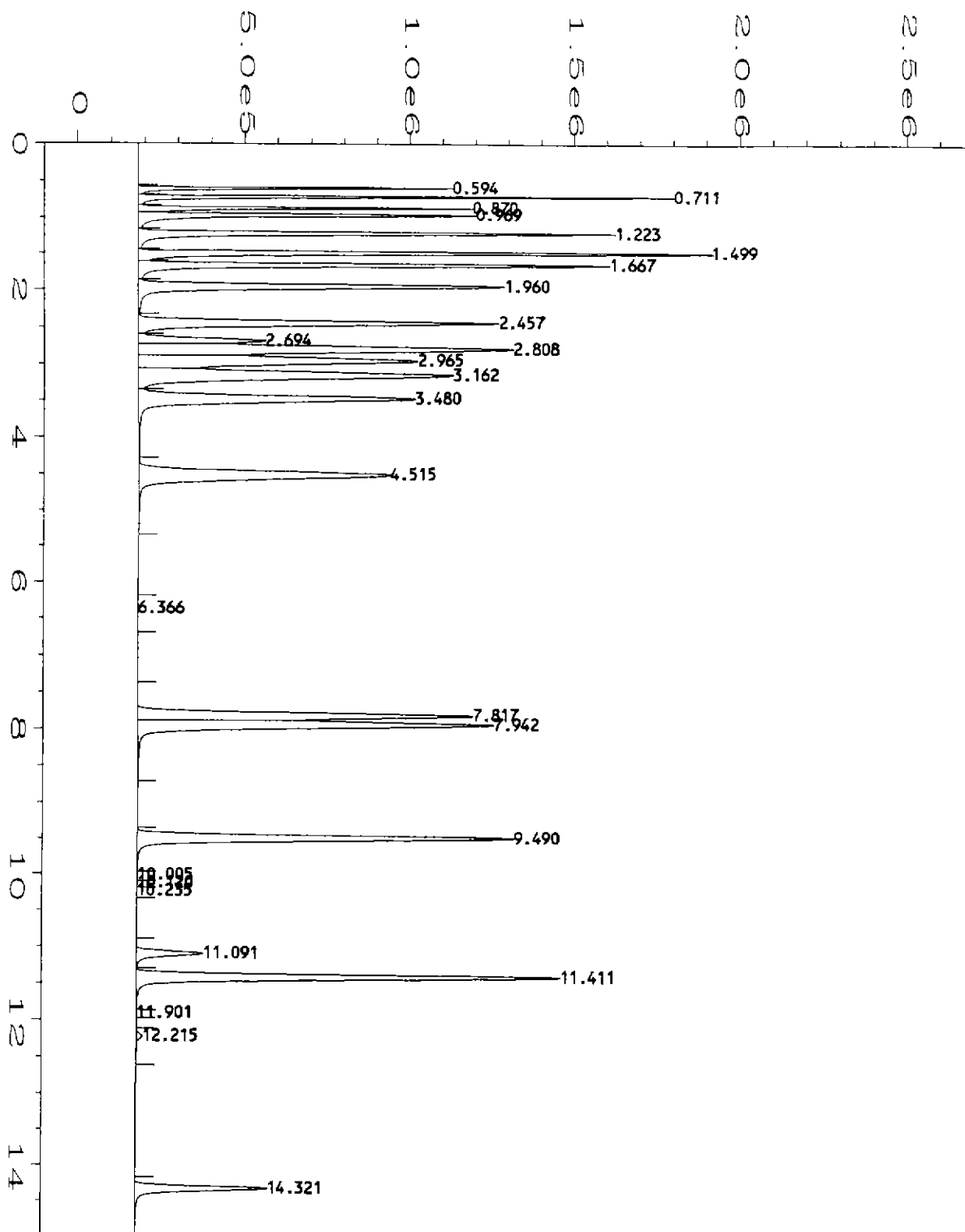
Page Number : 2  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

Sig. 2 in C:\HPCHEM\1\DATA\0722PL12.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.708	6817	6852	VV	0.016	1.5263
2	1.006	113284	9767	PV	0.139	25.3644
3	1.220	16356	5830	VV	0.043	3.6622
4	1.305	1661	343	VB	0.079	0.3719
5	1.667	30705	11079	BB	0.043	6.8750
6	2.248	21773	4862	BV	0.070	4.8750
7	2.460	17062	4093	VB	0.065	3.8202
8	3.437	34692	5937	BB	0.087	7.7676
9	4.530	20239	2800	BB	0.111	4.5316
10	7.046	32249	5652	BB	0.090	7.2205
11	7.949	15642	2914	BB	0.083	3.5023
12	9.553	28659	6328	BV	0.071	6.4169
13	9.748	33451	7520	VB	0.070	7.4898
14	10.318	28702	6535	BB	0.069	6.4263
15	11.081	20481	5149	BB	0.062	4.5858
16	14.317	24852	6548	BV	0.060	5.5644

Total area = 446626

=====



Data File Name : C:\HPCHEM\1\DATA\0722HM12.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : MID STD. 1  
 Run Time Bar Code:  
 Acquired on : 22 Jul 94 09:23 AM  
 Report Created on: 22 Jul 94 09:39 AM  
 Sample Info : 0721Q1 CUS 20 PPM STD.

Page Number : 1  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

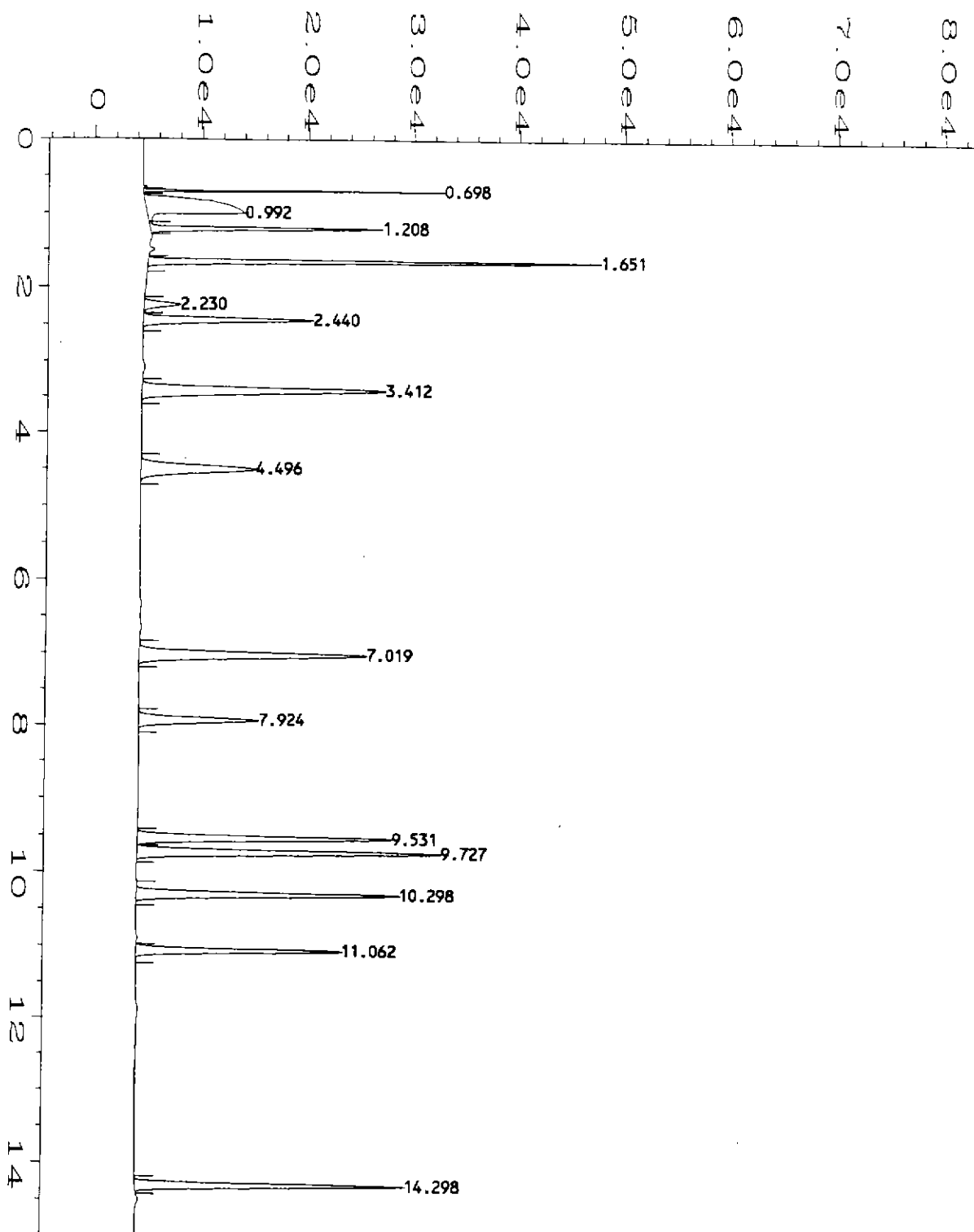
Data File Name : C:\HPCHEM\1\DATA\0722HM12.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : MID STD. 1  
 Run Time Bar Code:  
 Acquired on : 22 Jul 94 09:23 AM  
 Report Created on: 22 Jul 94 09:39 AM

Page Number : 2  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Sig. 1 in C:\HPCHEM\1\DATA\0722HM12.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.594	1580478	956098	PV	0.025	1.6930
2	0.711	2862161	1637942	VV	0.026	3.0659
3	0.870	2027833	1012452	VV	0.030	2.1722
4	0.969	3017660	1028132	VV	0.044	3.2324
5	1.223	4508452	1445369	VV	0.048	4.8293
6	1.499	5394522	1745786	VV	0.047	5.7785
7	1.667	4868767	1428453	VV	0.052	5.2153
8	1.960	5021305	1107151	VV	0.069	5.3787
9	2.457	5059770	1092533	VV	0.071	5.4199
10	2.694	1654210	381510	VV	0.066	1.7720
11	2.808	6523043	1137164	VV	0.088	6.9873
12	2.965	5638056	845333	VV	0.101	6.0394
13	3.162	6692393	953578	VV	0.108	7.1687
14	3.480	5403894	836678	VV	0.100	5.7885
15	4.515	5880433	761567	VV	0.120	6.2990
16	6.366	8796	1208	BB	0.100	0.0094
17	7.817	5464875	1014852	BV	0.083	5.8538
18	7.942	6481551	1077608	VV	0.091	6.9429
19	9.490	6166922	1142360	PV	0.084	6.6059
20	10.005	11800	1783	VV	0.094	0.0126
21	10.120	5104	1194	VV	0.067	0.0055
22	10.235	2816	577	VV	0.070	0.0030
23	11.091	975522	199767	BV	0.075	1.0450
24	11.411	6077651	1285035	VV	0.073	6.5102
25	11.901	1731	459	VB	0.053	0.0019
26	12.215	95308	17401	VV	0.083	0.1021
27	14.321	1930288	399308	BBA	0.073	2.0677

Total area = 9.33553E+007



Data File Name : C:\HPCHEM\1\DATA\0722PM12.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : MID STD. 1  
 Run Time Bar Code:  
 Acquired on : 22 Jul 94 09:23 AM  
 Report Created on: 22 Jul 94 09:39 AM  
 Sample Info : 0721Q1 CUS 20 PPM STD.

Page Number : 1  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\1\DATA\0722PM12.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : MID STD. 1  
 Run Time Bar Code:  
 Acquired on : 22 Jul 94 09:23 AM  
 Report Created on: 22 Jul 94 09:39 AM

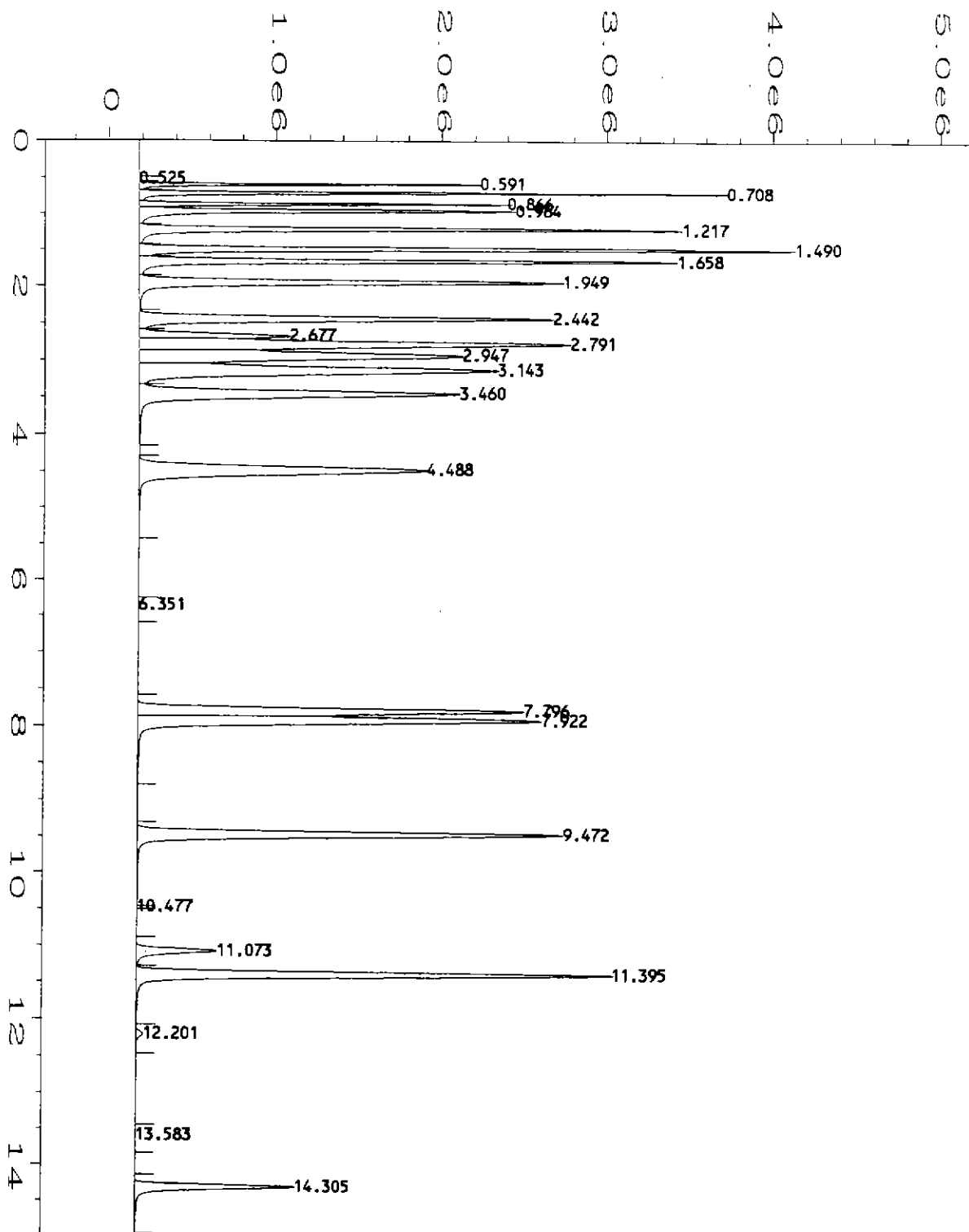
Page Number : 2  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Sig. 2 in C:\HPCHEM\1\DATA\0722PM12.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.698	27998	29386	VV	0.015	2.1582
2	0.992	102936	9211	PV	0.134	7.9349
3	1.208	54292	21929	VV	0.039	4.1852
4	1.651	116749	42926	VB	0.043	8.9997
5	2.230	15226	3424	BV	0.069	1.1737
6	2.440	65431	15987	VB	0.064	5.0438
7	3.412	132494	23021	BB	0.089	10.2134
8	4.496	77041	10800	BB	0.112	5.9387
9	7.019	123253	21372	BB	0.091	9.5010
10	7.924	59721	11251	BB	0.084	4.6037
11	9.531	109882	23971	BV	0.072	8.4703
12	9.727	128194	28712	VB	0.070	9.8820
13	10.298	109195	24860	BB	0.069	8.4174
14	11.062	77837	19369	BB	0.063	6.0002
15	14.298	97008	25518	BV	0.060	7.4779

Total area = 1297256

=====



Data File Name : C:\HPCHEM\1\DATA\0722HH12.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : HIGH STD. 1  
 Run Time Bar Code:  
 Acquired on : 22 Jul 94 09:04 AM  
 Report Created on: 22 Jul 94 09:19 AM  
 Sample Info : 0721Q2 CUS 50 PPM STD.

Page Number : 1  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\1\DATA\0722HH12.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : HIGH STD. 1  
 Run Time Bar Code:  
 Acquired on : 22 Jul 94 09:04 AM  
 Report Created on: 22 Jul 94 09:19 AM

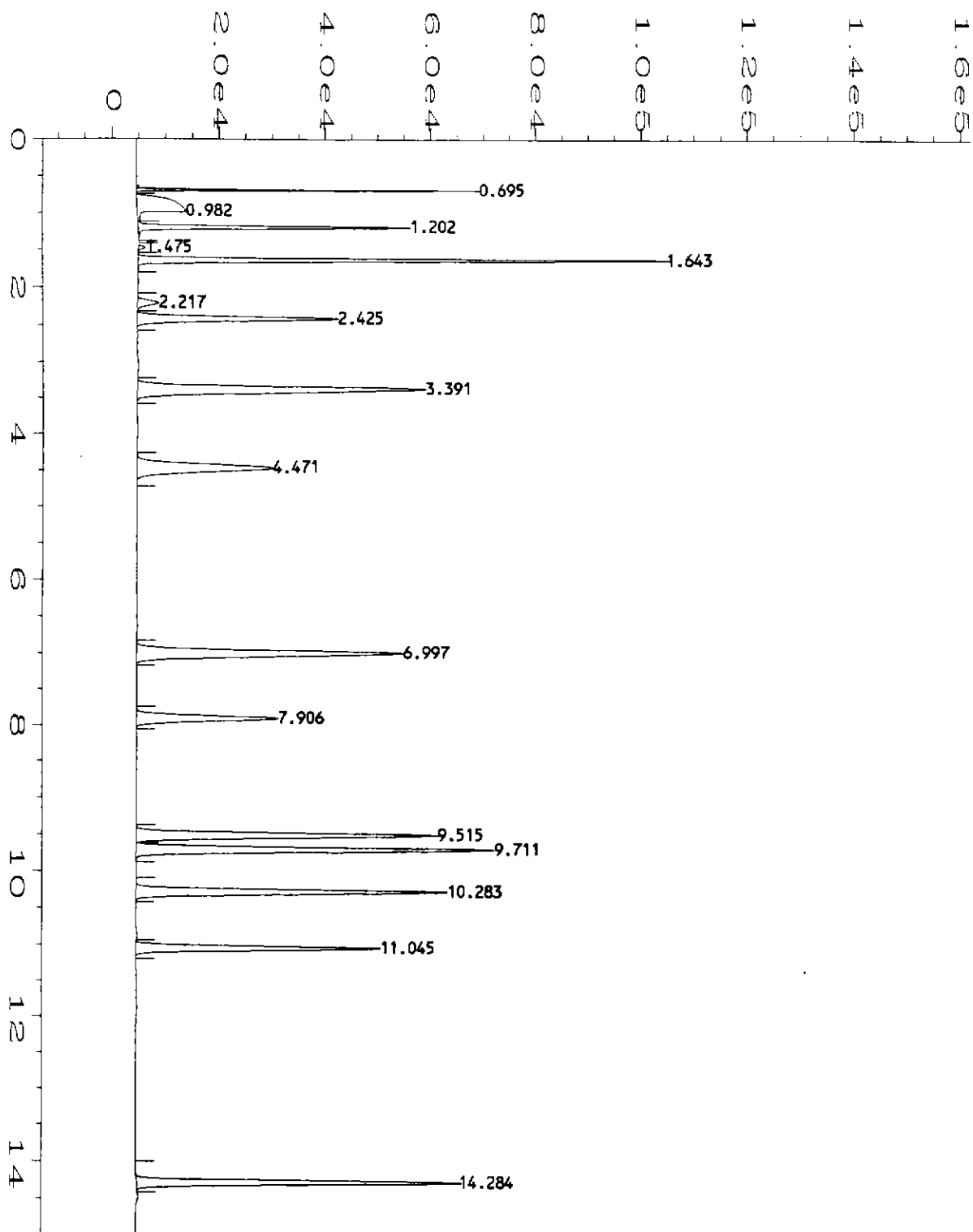
Page Number : 2  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Sig. 1 in C:\HPCHEM\1\DATA\0722HH12.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.525	2288	1627	PV	0.021	0.0011
2	0.591	3401045	2076026	PV	0.025	1.6004
3	0.708	6292684	3571208	VV	0.026	2.9610
4	0.866	4473223	2262933	VV	0.030	2.1049
5	0.964	6694873	2273967	VV	0.044	3.1503
6	1.217	1.01976E+007	3278920	VV	0.048	4.7985
7	1.490	1.22825E+007	3955831	VV	0.048	5.7796
8	1.658	1.10226E+007	3254090	VV	0.052	5.1867
9	1.949	1.15055E+007	2562665	VV	0.069	5.4140
10	2.442	1.15241E+007	2507366	VV	0.071	5.4227
11	2.677	3868760	902351	VV	0.065	1.8205
12	2.791	1.48919E+007	2605508	VV	0.088	7.0074
13	2.947	1.29593E+007	1950205	VV	0.102	6.0981
14	3.143	1.52453E+007	2163528	VV	0.109	7.1738
15	3.460	1.22576E+007	1933530	VV	0.098	5.7679
16	4.488	1.33437E+007	1733653	VV	0.121	6.2789
17	6.351	19177	2989	VV	0.090	0.0090
18	7.796	1.2624E+007	2329299	BV	0.083	5.9403
19	7.922	1.47469E+007	2440753	VV	0.092	6.9392
20	9.472	1.41012E+007	2574817	VV	0.085	6.6354
21	10.477	208	168	VV	0.025	0.0001
22	11.073	2343141	475759	BV	0.075	1.1026
23	11.395	1.3925E+007	2877827	VV	0.075	6.5525
24	12.201	220763	40557	VV	0.083	0.1039
25	13.583	5874	971	BV	0.080	0.0028
26	14.305	4566255	957342	BV	0.073	2.1487

. Total area = 2.12515E+008





Data File Name : C:\HPCHEM\1\DATA\0722PH12.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : HIGH STD. 1  
 Run Time Bar Code:  
 Acquired on : 22 Jul 94 09:04 AM  
 Report Created on: 22 Jul 94 09:19 AM  
 Sample Info : 0721Q2 CUS 50 PPM STD.

Page Number : 1  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\1\DATA\0722PH12.D  
Operator : JAY BERGER  
Instrument : INSTRUMEN  
Sample Name : HIGH STD. 1  
Run Time Bar Code:  
Acquired on : 22 Jul 94 09:04 AM  
Report Created on: 22 Jul 94 09:19 AM

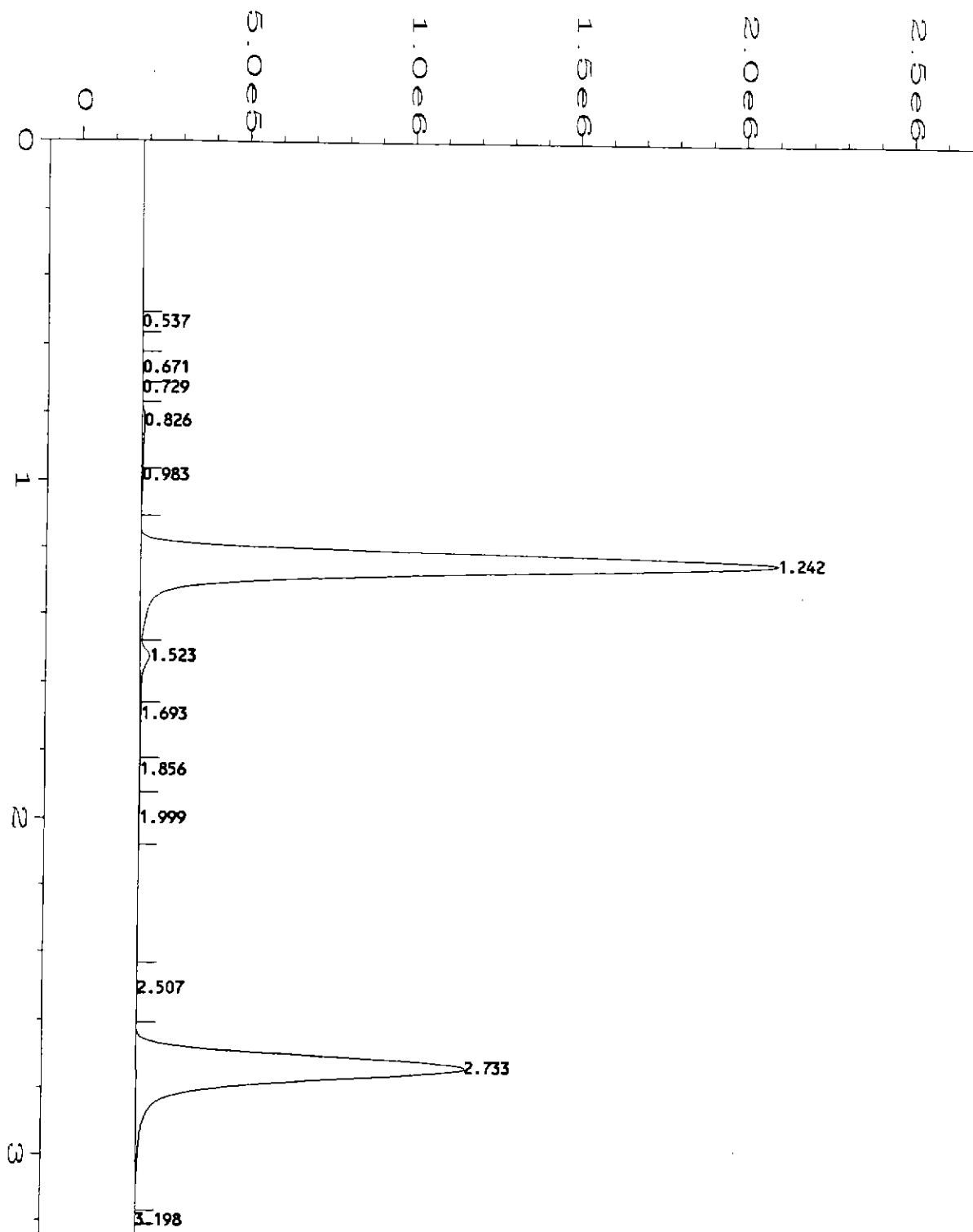
Page Number : 2  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

Sig. 2 in C:\HPCHEM\1\DATA\0722PH12.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.695	63093	67211	VV	0.015	2.1726
2	0.982	100086	9141	PV	0.133	3.4464
3	1.202	127698	51664	VB	0.039	4.3972
4	1.475	3240	1279	BV	0.040	0.1116
5	1.643	272321	101324	VB	0.042	9.3772
6	2.217	17824	4011	BV	0.069	0.6138
7	2.425	153551	37964	VV	0.063	5.2874
8	3.391	311516	54635	BB	0.089	10.7268
9	4.471	181330	25611	BB	0.111	6.2440
10	6.997	290512	50388	BB	0.091	10.0036
11	7.906	141464	26692	BB	0.083	4.8712
12	9.515	261719	57441	BV	0.072	9.0121
13	9.711	304242	67882	VB	0.070	10.4764
14	10.283	258202	58913	BB	0.069	8.8910
15	11.045	184895	46168	VB	0.062	6.3667
16	14.284	232387	61621	BV	0.059	8.0021

Total area = 2904079

=====



Data File Name : C:\HPCHEM\1\DATA\0722HH22.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : HIGH STD. 2  
 Run Time Bar Code:  
 Acquired on : 22 Jul 94 11:19 AM  
 Report Created on: 22 Jul 94 11:23 AM  
 Sample Info : 0721H3 US 50 PPM FREON 113 STD.

Page Number : 1  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\1\DATA\0722HH22.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : HIGH STD. 2  
 Run Time Bar Code:  
 Acquired on : 22 Jul 94 11:19 AM  
 Report Created on: 22 Jul 94 11:23 AM

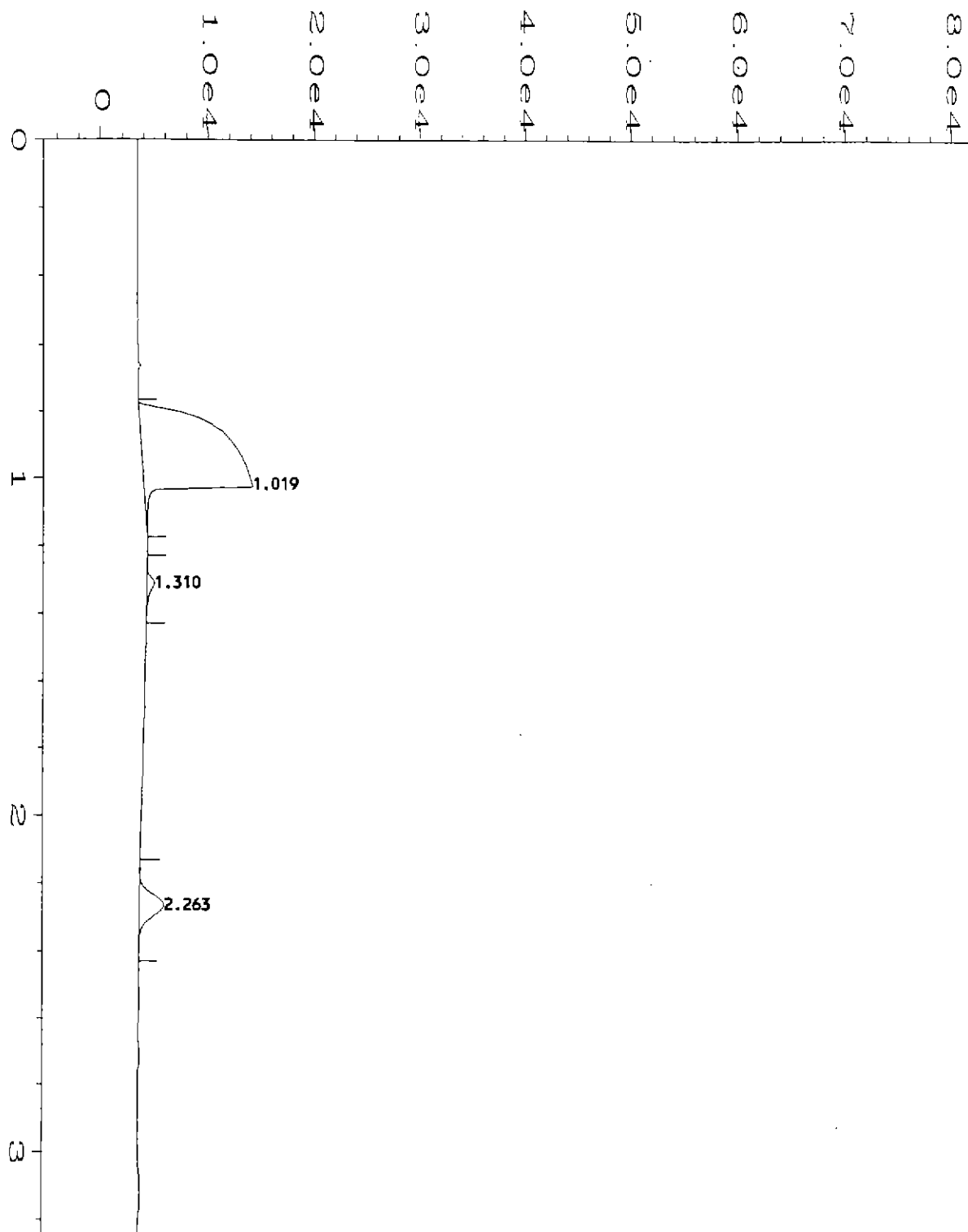
Page Number : 2  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Sig. 1 in C:\HPCHEM\1\DATA\0722HH22.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.537	766	739	BV	0.017	0.0056
2	0.671	5315	1840	VV	0.039	0.0389
3	0.729	2512	880	VV	0.048	0.0184
4	0.826	65875	8682	VV	0.103	0.4819
5	0.983	16720	3892	VV	0.054	0.1223
6	1.242	8224972	1923874	PV	0.066	60.1692
7	1.523	117114	28157	VV	0.060	0.8567
8	1.693	25965	4090	VV	0.085	0.1899
9	1.856	7024	1403	VV	0.070	0.0514
10	1.999	8988	1420	VV	0.079	0.0658
11	2.507	6450	1194	VV	0.069	0.0472
12	2.733	5187785	988669	PV	0.079	37.9509
13	3.198	250	104	VV	0.040	0.0018

Total area = 1.36697E+007

=====



Data File Name	: C:\HPCHEM\1\DATA\0722PH22.D	Page Number	: 1
Operator	: JAY BERGER	Vial Number	:
Instrument	: INSTRUMEN	Injection Number	:
Sample Name	: HIGH STD. 2	Sequence Line	:
Run Time Bar Code:		Instrument Method:	SG-1.MTH
Acquired on	: 22 Jul 94 11:19 AM	Analysis Method	: SG-1.MTH
Report Created on:	22 Jul 94 11:23 AM		
Sample Info	: 0721H3 US 50 PPM FREON 113 STD.		

Data File Name : C:\HPCHEM\1\DATA\0722PH22.D  
Operator : JAY BERGER  
Instrument : INSTRUMEN  
Sample Name : HIGH STD. 2  
Run Time Bar Code:  
Acquired on : 22 Jul 94 11:19 AM  
Report Created on: 22 Jul 94 11:23 AM

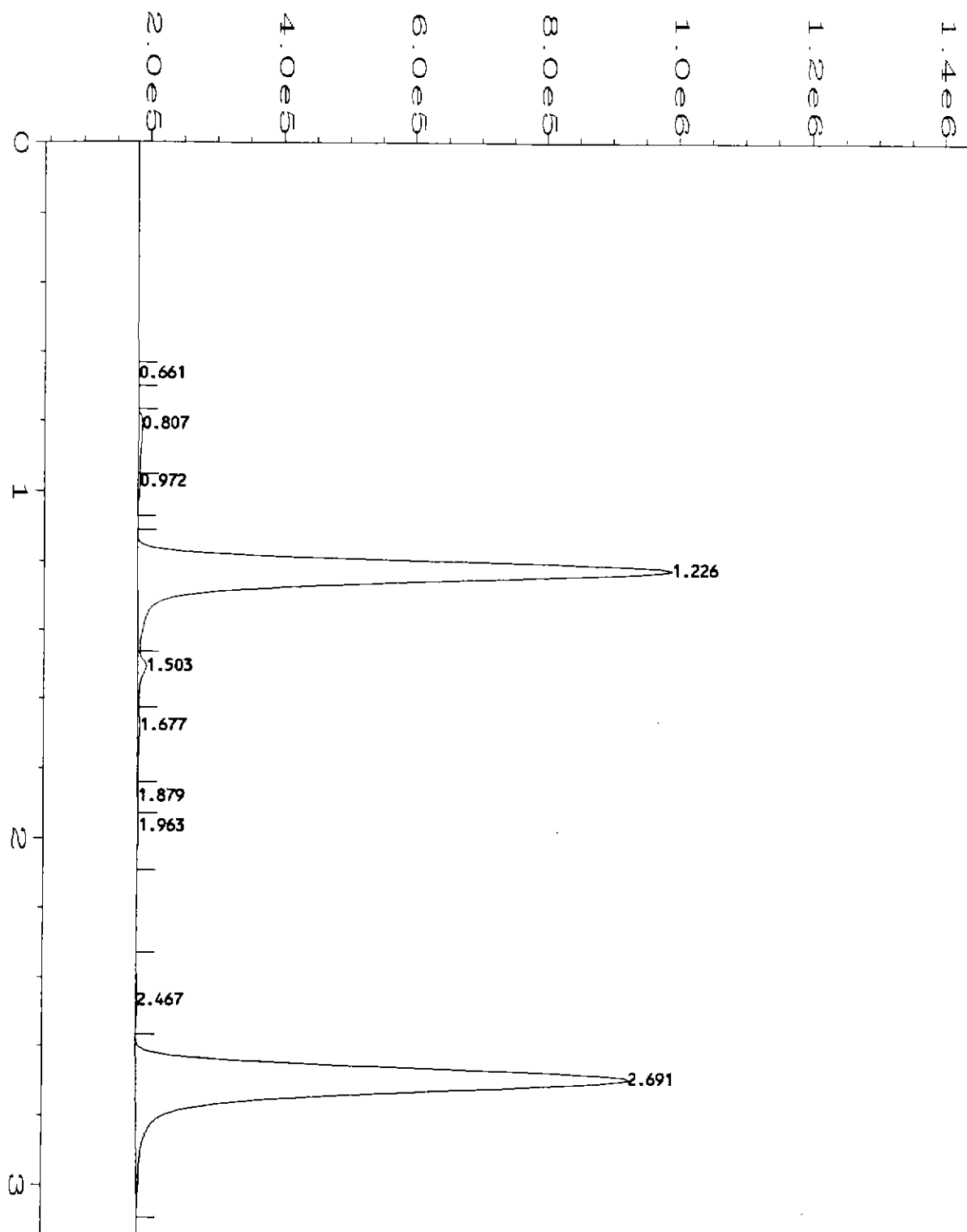
Page Number : 2  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

Sig. 2 in C:\HPCHEM\1\DATA\0722PH22.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	1.019	121671	10131	BB	0.148	90.7040
2	1.310	2101	714	BB	0.045	1.5660
3	2.263	10369	2283	BB	0.071	7.7300

Total area = 134141

=====



Data File Name : C:\HPCHEM\1\DATA\0722HM22.D

Operator : JAY BERGER

Instrument : INSTRUMEN

Sample Name : MID STD. 2

Run Time Bar Code:

Acquired on : 22 Jul 94 11:24 AM

Report Created on: 22 Jul 94 11:27 AM

Sample Info : 0721M3 US 20 PPM FREON 113 STD.

Page Number : 1

Vial Number :

Injection Number :

Sequence Line :

Instrument Method: SG-1.MTH

Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\1\DATA\0722HM22.D  
Operator : JAY BERGER  
Instrument : INSTRUMEN  
Sample Name : MID STD. 2  
Run Time Bar Code:  
Acquired on : 22 Jul 94 11:24 AM  
Report Created on: 22 Jul 94 11:27 AM

Page Number : 2  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

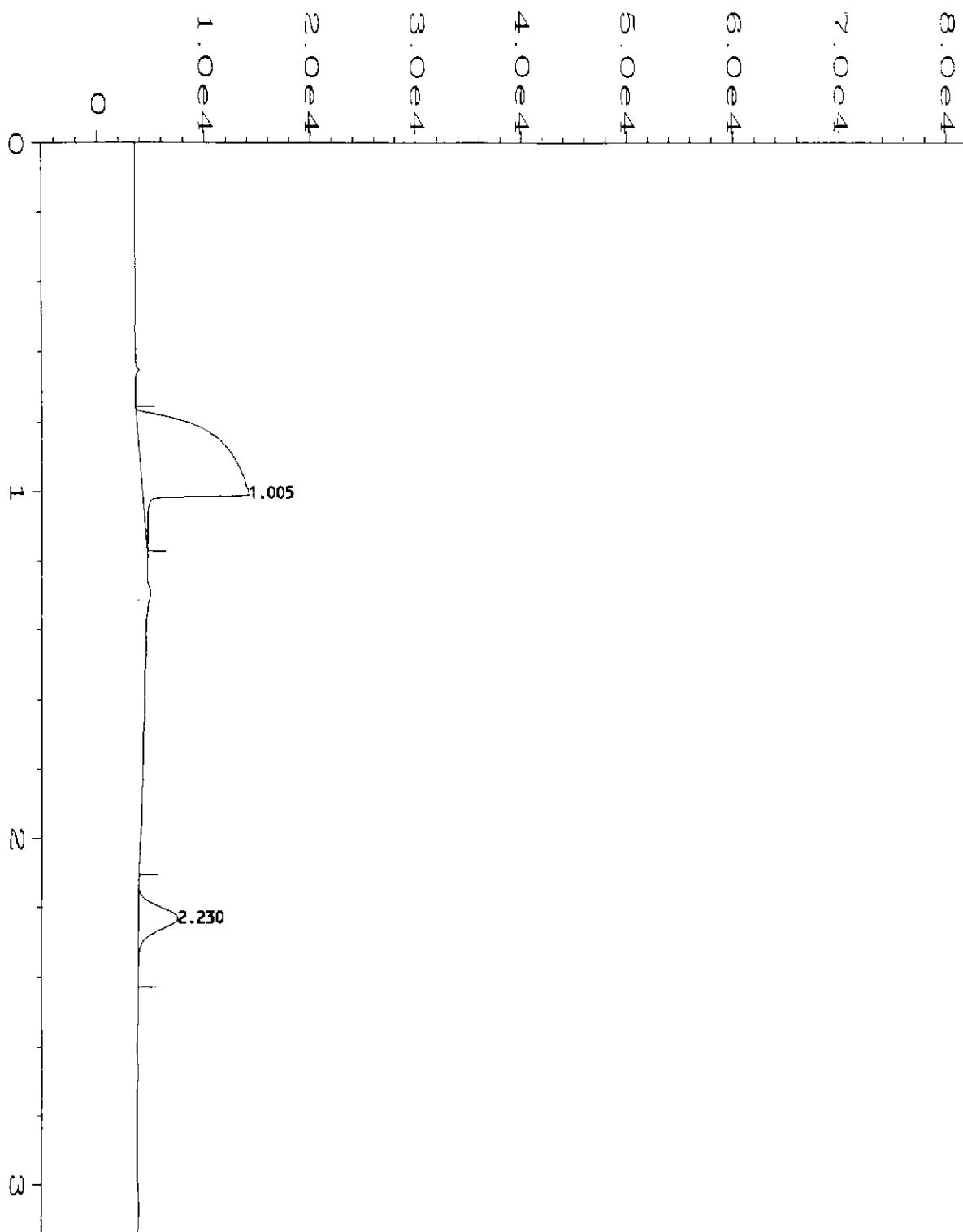
Sig. 1 in C:\HPCHEM\1\DATA\0722HM22.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.661	2082	1372	PV	0.023	0.0279
2	0.807	43046	5921	VV	0.098	0.5771
3	0.972	11357	2959	VV	0.054	0.1523
4	1.226	3440256	810719	PV	0.065	46.1238
5	1.503	55194	13104	VV	0.061	0.7400
6	1.677	26903	3405	VV	0.107	0.3607
7	1.879	6867	1460	VV	0.062	0.0921
8	1.963	7632	1456	VV	0.069	0.1023
9	2.467	9090	1513	BV	0.077	0.1219
10	2.691	3856316	748128	PV	0.079	51.7020

Total area = 7458743

=====





Data File Name	: C:\HPCHEM\1\DATA\0722PM22.D	Page Number	: 1
Operator	: JAY BERGER	Vial Number	:
Instrument	: INSTRUMEN	Injection Number	:
Sample Name	: MID STD. 2	Sequence Line	:
Run Time Bar Code:		Instrument Method:	SG-1.MTH
Acquired on	: 22 Jul 94 11:24 AM	Analysis Method	: SG-1.MTH
Report Created on:	22 Jul 94 11:28 AM		
Sample Info	: 0721M3 US 20 PPM FREON 113 STD.		

Data File Name : C:\HPCHEM\1\DATA\0722PM22.D  
Operator : JAY BERGER  
Instrument : INSTRUMEN  
Sample Name : MID STD. 2  
Run Time Bar Code:  
Acquired on : 22 Jul 94 11:24 AM  
Report Created on: 22 Jul 94 11:28 AM

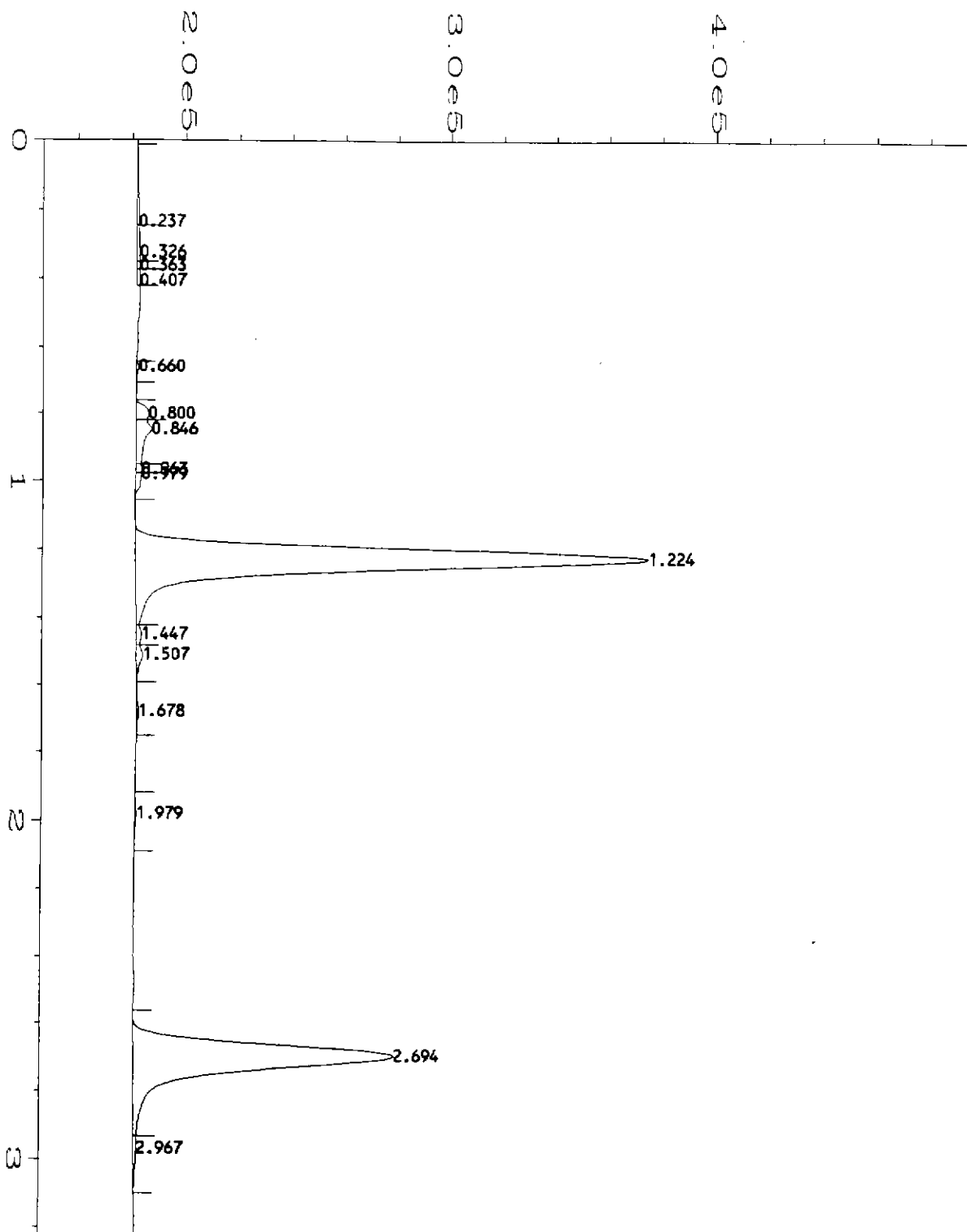
Page Number : 2  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

Sig. 2 in C:\HPCHEM\1\DATA\0722PM22.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	1.005	117927	9936	BB	0.144	87.4872
2	2.230	16867	3675	BB	0.070	12.5128

Total area = 134794

=====



Data File Name	: C:\HPCHEM\1\DATA\0722HL22.D	Page Number	: 1
Operator	: JAY BERGER	Vial Number	:
Instrument	: INSTRUMEN	Injection Number	:
Sample Name	: LOW STD. 2	Sequence Line	:
Run Time Bar Code:		Instrument Method:	SG-1.MTH
Acquired on	: 22 Jul 94 11:29 AM	Analysis Method	: SG-1.MTH
Report Created on:	22 Jul 94 11:32 AM		
Sample Info	: 0721L3 US 5 PPM FREON 113 STD.		

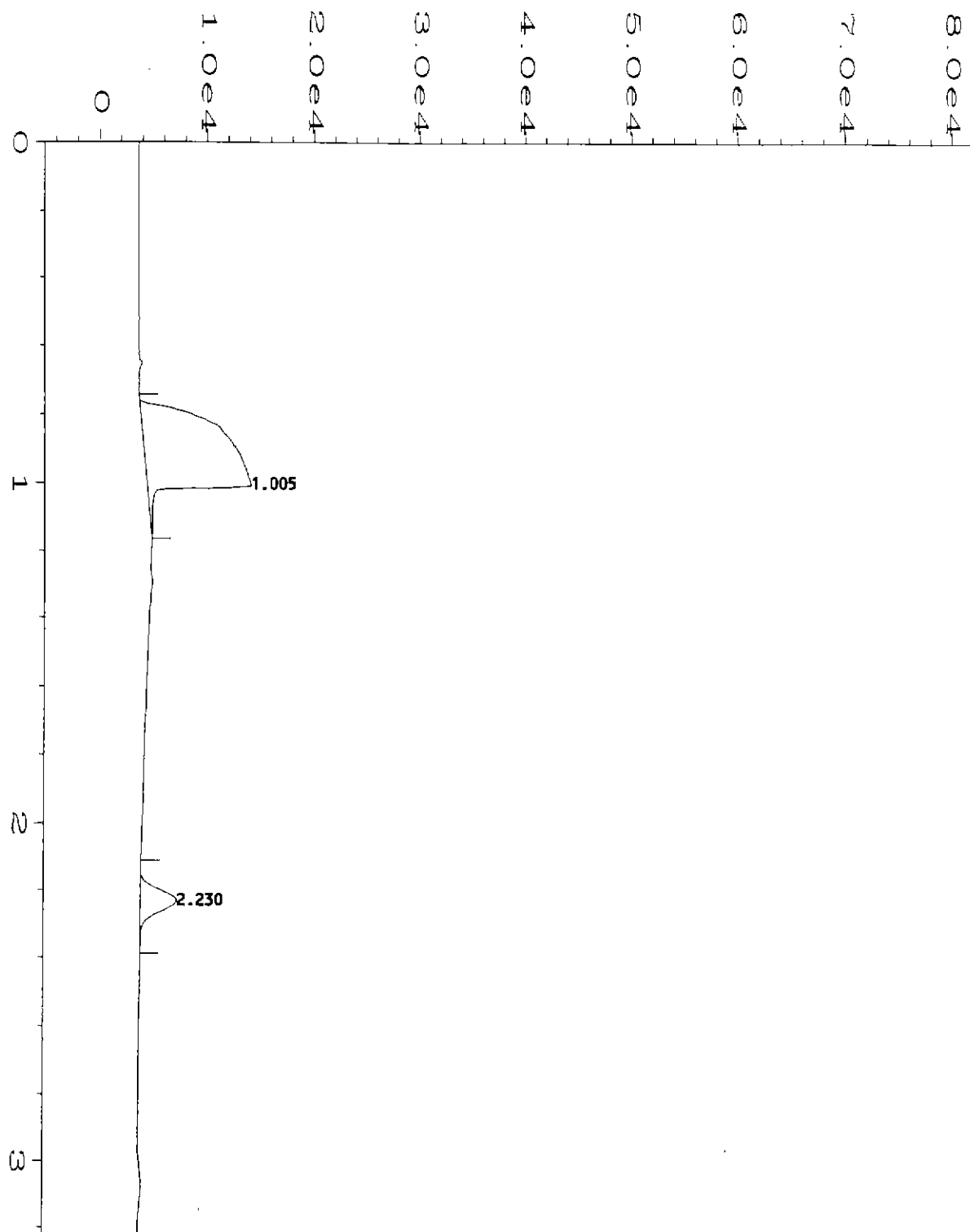
Data File Name	: C:\HPCHEM\1\DATA\0722HL22.D	Page Number	: 2
Operator	: JAY BERGER	Vial Number	:
Instrument	: INSTRUMEN	Injection Number	:
Sample Name	: LOW STD. 2	Sequence Line	:
Run Time Bar Code:		Instrument Method:	SG-1.MTH
Acquired on	: 22 Jul 94 11:29 AM	Analysis Method	: SG-1.MTH
Report Created on:	22 Jul 94 11:32 AM		

Sig. 1 in C:\HPCHEM\1\DATA\0722HL22.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.237	6274	829	BV	0.095	0.4391
2	0.326	6091	1140	VV	0.068	0.4262
3	0.363	1441	1131	VV	0.021	0.1008
4	0.407	3458	1275	VV	0.041	0.2420
5	0.660	1574	985	VV	0.024	0.1102
6	0.800	12012	4667	PV	0.041	0.8406
7	0.846	27387	5956	VV	0.060	1.9166
8	0.963	3416	2297	VV	0.025	0.2390
9	0.979	6014	2175	VV	0.046	0.4209
10	1.224	823818	194114	PV	0.066	57.6515
11	1.447	5997	2028	VV	0.042	0.4197
12	1.507	8869	2529	VV	0.051	0.6207
13	1.678	3977	776	VV	0.072	0.2783
14	1.979	2451	613	BV	0.055	0.1716
15	2.694	509969	97934	PV	0.079	35.6881
16	2.967	6212	1064	VV	0.097	0.4347

Total area = 1428962

=====



Data File Name : C:\HPCHEM\1\DATA\0722PL22.D

Operator : JAY BERGER

Instrument : INSTRUMEN

Sample Name : LOW STD. 2

Run Time Bar Code:

Acquired on : 22 Jul 94 11:29 AM

Report Created on: 22 Jul 94 11:33 AM

Sample Info : 0721L3 US 5 PPM FREON 113 STD.

Page Number : 1

Vial Number :

Injection Number :

Sequence Line :

Instrument Method: SG-1.MTH

Analysis Method : SG-1.MTH

Data File Name	: C:\HPCHEM\1\DATA\0722PL22.D	Page Number	: 2
Operator	: JAY BERGER	Vial Number	:
Instrument	: INSTRUMEN	Injection Number	:
Sample Name	: LOW STD. 2	Sequence Line	:
Run Time Bar Code:		Instrument Method	: SG-1.MTH
Acquired on	: 22 Jul 94 11:29 AM	Analysis Method	: SG-1.MTH
Report Created on:	22 Jul 94 11:33 AM		

Sig. 2 in C:\HPCHEM\1\DATA\0722PL22.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	1.005	116810	9688	BB	0.146	88.5100
2	2.230	15164	3391	BB	0.069	11.4900

Total area = 131974

=====

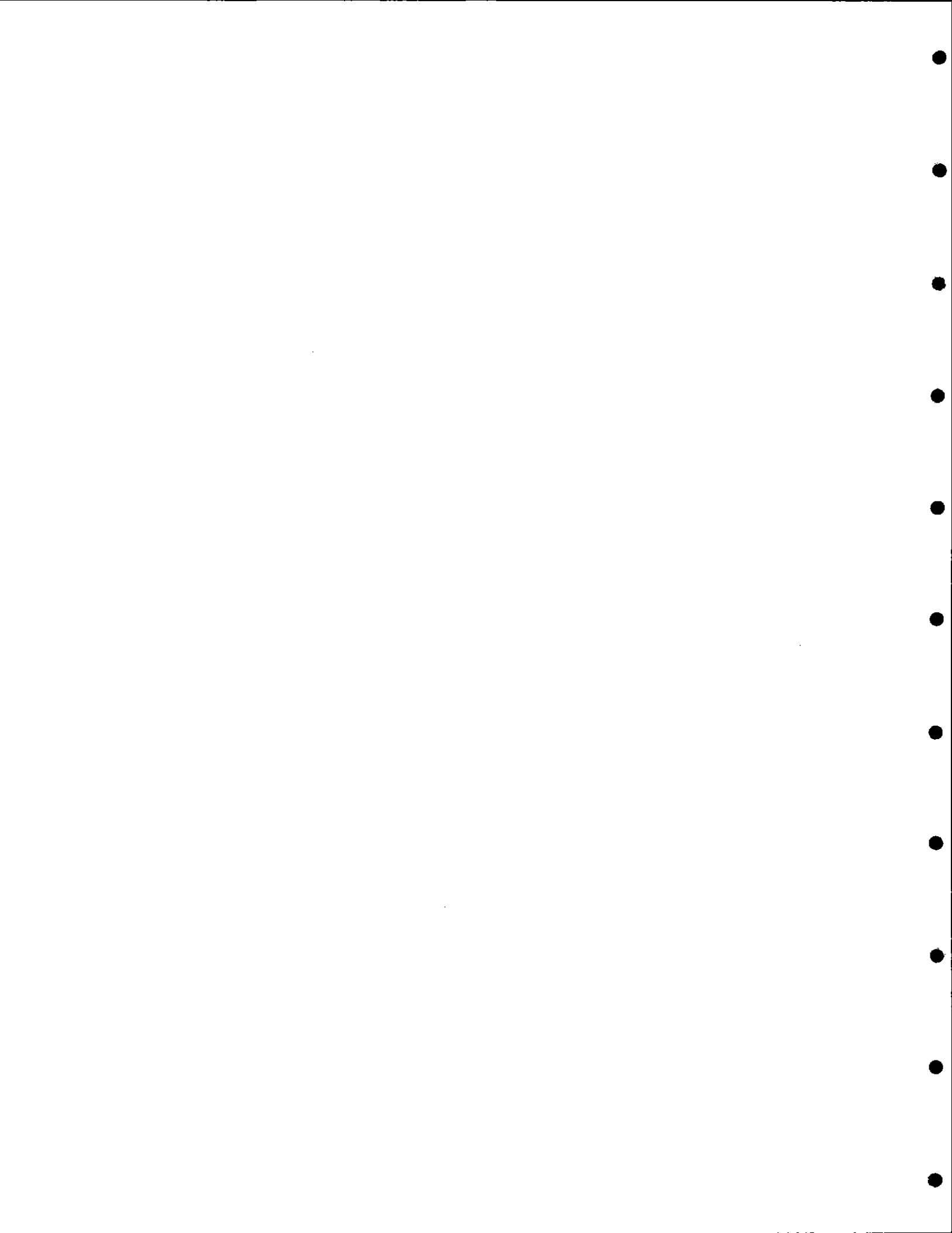
# SOIL GAS LABORATORY CONTROL STANDARD

SITE NAME: Aerovironment  
 ANALYST: Jay Berger  
 NORMAL INJECTION VOLUME: 0.50 uL

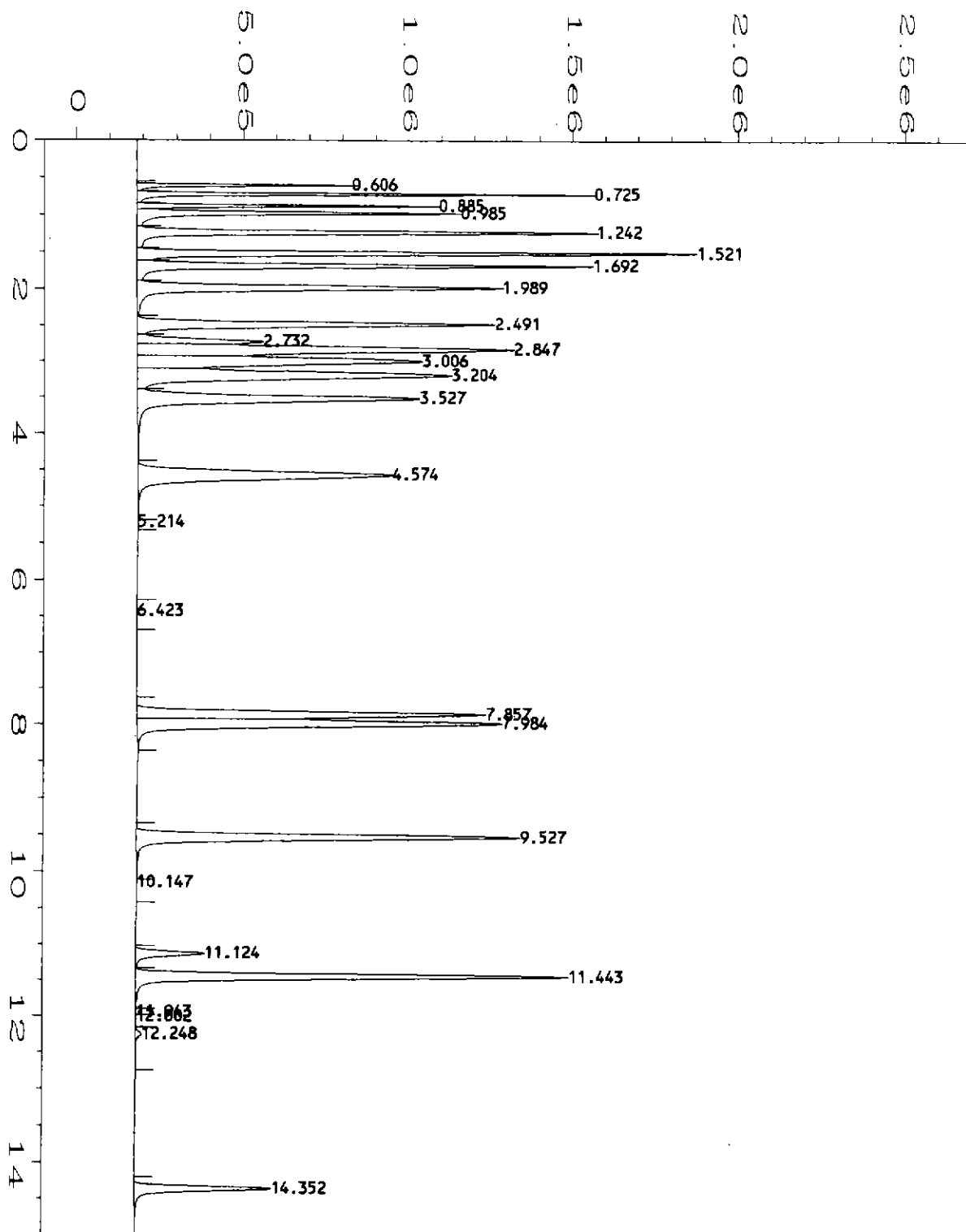
LAB NAME: AeroVironment Inc.  
 STD LOT ID NO. CUS-881/ H 0377&HC-480/G-1065

DATE: 07/22/94  
 INSTRUMENT ID: GC2/PID/ELCD

COMPOUND	DETEC.	RT	MASS	AREA	CF	%DIFF	ACC RGE
			ng				
Dichlorodifluoromethane	ELCD	0.61	10	1192548	119255	-13.88	<15.00
Vinyl chloride	ELCD	0.73	10	2616284	261628	-3.59	<15.00
Chloroethane	ELCD	0.89	10	1909559	190956	-2.28	<15.00
Trichlorofluoromethane	ELCD	0.99	10	2978800	297880	2.44	<15.00
1,1,2-Trichloro-trifluoroethane	ELCD	1.23	10	3683177	368318	10.21	<15.00
1,1-Dichloroethene (1,1-DCE)	ELCD	1.24	10	4612038	461204	4.00	<15.00
Dichloromethane (Methylene chloride)	ELCD	1.52	10	5527919	552792	3.68	<15.00
trans-1,2-Dichloroethene(t-1,2-DCE)	ELCD	1.69	10	4998700	499870	2.82	<15.00
1,1-Dichloroethane (1,1-DCA)	ELCD	1.99	10	5242095	524210	4.86	<15.00
cis-1,2-Dichloroethene (c-1,2-DCE)	ELCD	2.49	10	5226911	522691	4.15	<15.00
Chloroform	ELCD	2.85	10	6751421	675142	4.71	<15.00
1,1,1-Trichloroethane (1,1,1-TCA)	ELCD	3.01	10	5871421	587142	4.89	<15.00
Carbon tetrachloride	ELCD	3.20	10	6876854	687685	4.04	<15.00
Benzene	PID	3.46	10	138272	13827	4.79	<15.00
1,2-Dichloroethane (1,2-DCA)	ELCD	3.53	10	5722286	572229	6.65	<15.00
Trichloroethene (TCE)	ELCD	4.57	10	6089295	608930	4.76	<15.00
Toluene	PID	7.07	10	129122	12912	5.13	<15.00
1,1,2-Trichloroethane (1,1,2-TCA)	ELCD	7.86	10	5666994	566699	5.28	<15.00
Tetrachloroethene (PCE)	ELCD	7.98	10	6608803	660880	3.17	<15.00
1,1,1,2-Tetrachloroethane	ELCD	9.53	10	6322547	632255	4.11	<15.00
Ethylbenzene	PID	9.57	10	115564	11556	5.31	<15.00
m&p-Xylene	PID	9.76	10	134903	13490	5.48	<15.00
o-Xylene	PID	10.33	10	114282	11428	4.75	<15.00
1,1,2,2-Tetrachloroethane	ELCD	11.44	10	6259345	625935	3.89	<15.00







Data File Name : C:\HPCHEM\1\DATA\0722HQ12.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : QC STD. 1  
 Run Time Bar Code:  
 Acquired on : 22 Jul 94 10:04 AM  
 Report Created on: 22 Jul 94 10:19 AM  
 Sample Info : 0721M1 CUS 20 PPM STD.

Page Number : 1  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

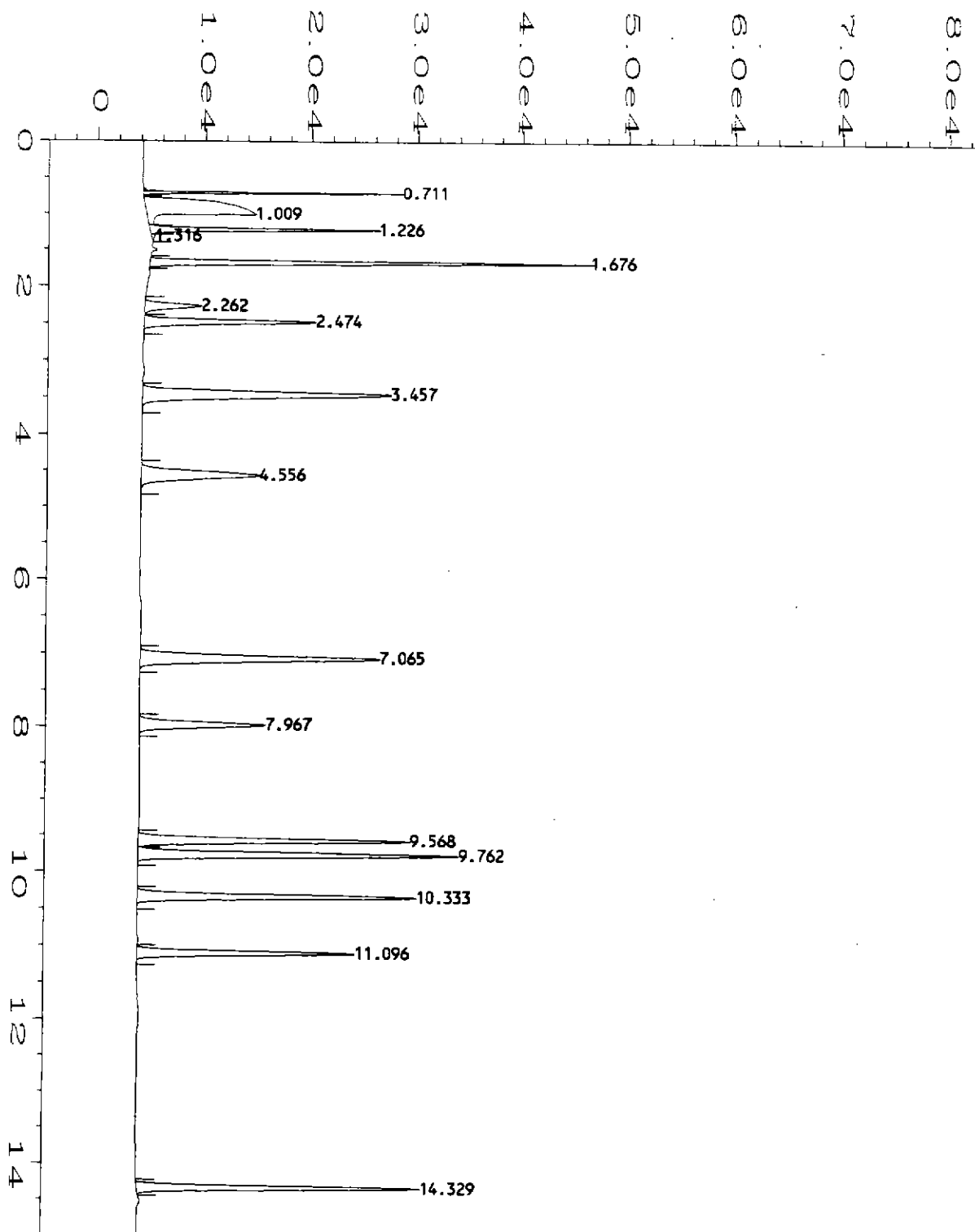
Data File Name : C:\HPCHEM\1\DATA\0722HQ12.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : QC STD. 1  
 Run Time Bar Code:  
 Acquired on : 22 Jul 94 10:04 AM  
 Report Created on: 22 Jul 94 10:19 AM

Page Number : 2  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Sig. 1 in C:\HPCHEM\1\DATA\0722HQ12.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.606	1192548	670204	PV	0.027	1.2509
2	0.725	2616284	1403884	VV	0.028	2.7443
3	0.885	1909559	918483	VV	0.032	2.0030
4	0.985	2978800	984027	VV	0.046	3.1245
5	1.242	4612038	1402512	VV	0.050	4.8377
6	1.521	5527919	1701430	VV	0.050	5.7984
7	1.692	4998700	1386171	VV	0.055	5.2432
8	1.989	5242095	1108650	VV	0.072	5.4985
9	2.491	5226911	1082960	VV	0.075	5.4826
10	2.732	1684158	379967	VV	0.068	1.7666
11	2.847	6750886	1141809	VV	0.091	7.0812
12	3.006	5871421	862353	VV	0.104	6.1587
13	3.204	6876854	950077	VV	0.113	7.2133
14	3.527	5722286	852895	VV	0.103	6.0022
15	4.574	6089295	770112	VV	0.123	6.3872
16	5.214	3531	831	VV	0.059	0.0037
17	6.423	6445	1118	BB	0.086	0.0068
18	7.857	5666994	1055002	BV	0.083	5.9442
19	7.984	6608803	1106097	VV	0.091	6.9321
20	9.527	6322547	1164317	PV	0.084	6.6319
21	10.147	14292	1498	VV	0.121	0.0150
22	11.124	1011614	205638	PV	0.075	1.0611
23	11.443	6259345	1313513	VV	0.074	6.5656
24	11.943	11846	2481	VV	0.064	0.0124
25	12.002	20338	2329	VV	0.110	0.0213
26	12.248	112752	18681	VB	0.089	0.1183
27	14.352	1997708	412859	PBA	0.073	2.0954

Total area = 9.5336E+007



Data File Name : C:\HPCHEM\1\DATA\0722PQ12.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : QC STD. 1  
 Run Time Bar Code:  
 Acquired on : 22 Jul 94 10:04 AM  
 Report Created on: 22 Jul 94 10:19 AM  
 Sample Info : 0721M1 CUS 20 PPM STD.

Page Number : 1  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\1\DATA\0722PQ12.D  
Operator : JAY BERGER  
Instrument : INSTRUMEN  
Sample Name : QC STD. 1  
Run Time Bar Code:  
Acquired on : 22 Jul 94 10:04 AM  
Report Created on: 22 Jul 94 10:19 AM

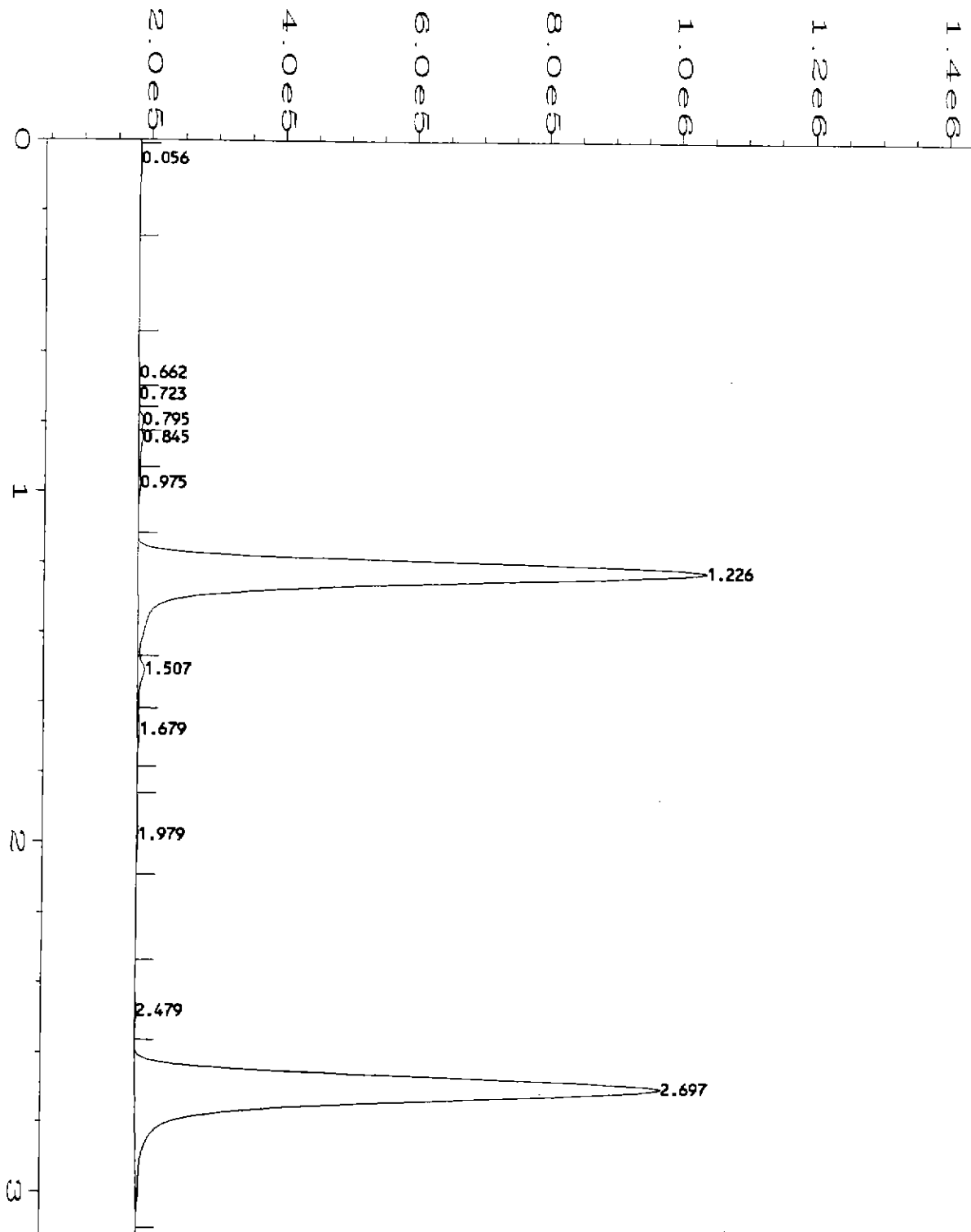
Page Number : 2  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

Sig. 2 in C:\HPCHEM\1\DATA\0722PQ12.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.711	25806	25002	VV	0.016	1.8784
2	1.009	118651	10163	PV	0.141	8.6362
3	1.226	57112	21746	VV	0.041	4.1570
4	1.316	1294	329	VB	0.049	0.0941
5	1.676	119249	42043	PV	0.044	8.6798
6	2.262	24343	5269	BV	0.071	1.7718
7	2.474	68266	16102	VB	0.066	4.9688
8	3.457	138272	23411	BB	0.091	10.0644
9	4.556	80808	11069	BB	0.114	5.8817
10	7.065	129122	22547	BB	0.090	9.3983
11	7.967	62865	11786	BB	0.084	4.5757
12	9.568	115564	25585	BV	0.071	8.4115
13	9.762	134903	30226	VB	0.070	9.8191
14	10.333	114282	26228	BB	0.069	8.3182
15	11.096	81865	20437	VB	0.063	5.9587
16	14.329	101477	26695	BV	0.060	7.3862

Total area = 1373878

=====



Data File Name : C:\HPCHEM\1\DATA\0722HQ22.D

Operator : JAY BERGER

Instrument : INSTRUMEN

Sample Name : QC STD. 2

Run Time Bar Code:

Acquired on : 22 Jul 94 11:34 AM

Report Created on: 22 Jul 94 11:37 AM

Sample Info : 0721Q4 US 20 PPM FREON 113 STD.

Page Number : 1

Vial Number :

Injection Number :

Sequence Line :

Instrument Method: SG-1.MTH

Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\1\DATA\0722HQ22.D  
Operator : JAY BERGER  
Instrument : INSTRUMEN  
Sample Name : QC STD. 2  
Run Time Bar Code:  
Acquired on : 22 Jul 94 11:34 AM  
Report Created on: 22 Jul 94 11:37 AM

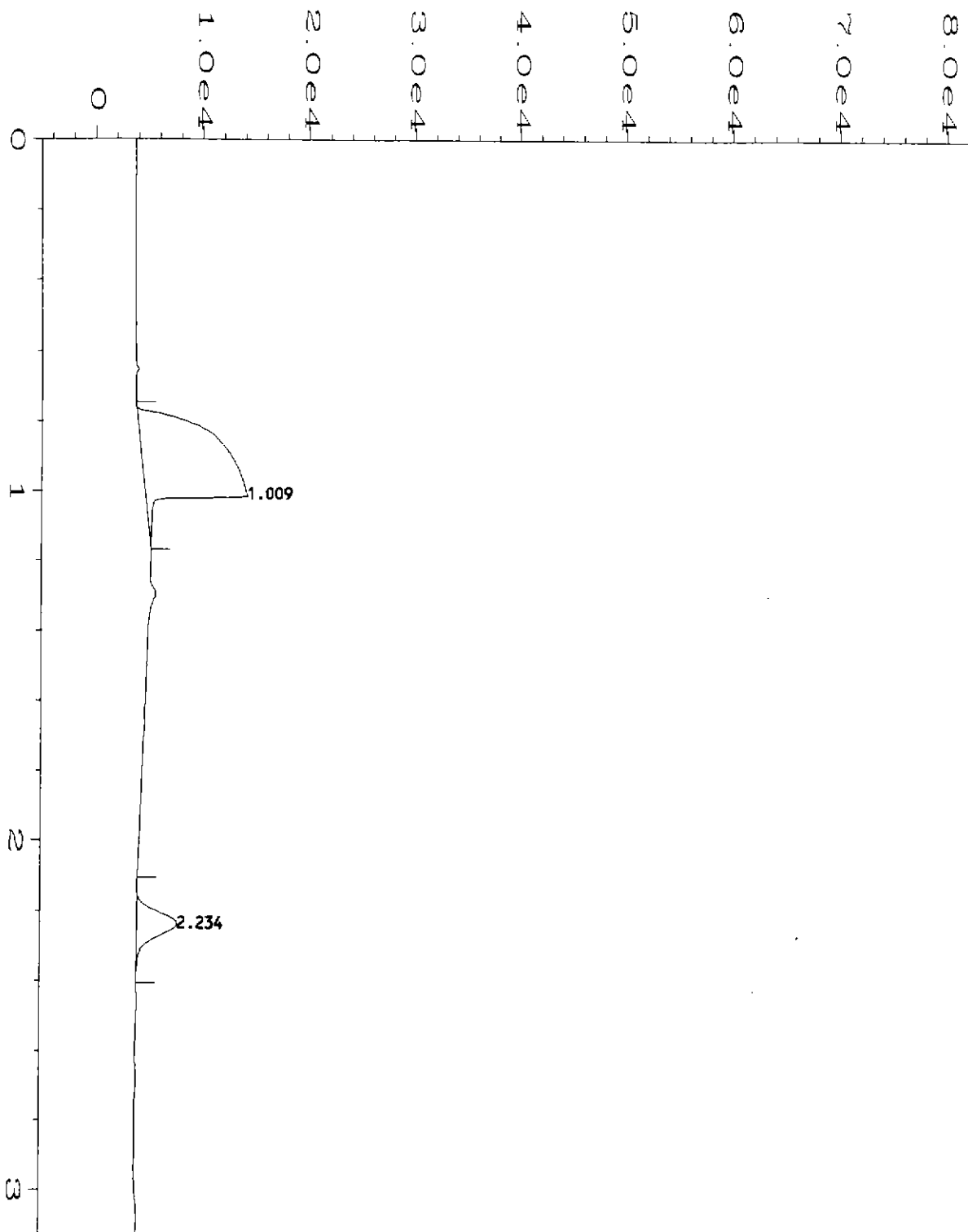
Page Number : 2  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

Sig. 1 in C:\HPCHEM\1\DATA\0722HQ22.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.056	6083	1409	BV	0.057	0.0764
2	0.662	6978	1902	PV	0.049	0.0877
3	0.723	3590	1190	VV	0.040	0.0451
4	0.795	18237	6405	VV	0.044	0.2291
5	0.845	27370	6448	VV	0.055	0.3438
6	0.975	16541	3370	VV	0.068	0.2078
7	1.226	3683177	859574	PV	0.066	46.2640
8	1.507	42573	9928	VV	0.062	0.5348
9	1.679	14846	2979	VV	0.068	0.1865
10	1.979	12977	2301	BV	0.071	0.1630
11	2.479	8741	1735	BV	0.070	0.1098
12	2.697	4120097	793937	PV	0.080	51.7522

Total area = 7961208

=====



Data File Name : C:\HPCHEM\1\DATA\0722PQ22.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : QC STD. 2  
 Run Time Bar Code:  
 Acquired on : 22 Jul 94 11:34 AM  
 Report Created on: 22 Jul 94 11:37 AM  
 Sample Info : 0721Q4 US 20 PPM FREON 113 STD.

Page Number : 1  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\1\DATA\0722PQ22.D  
Operator : JAY BERGER  
Instrument : INSTRUMEN  
Sample Name : QC STD. 2  
Run Time Bar Code:  
Acquired on : 22 Jul 94 11:34 AM  
Report Created on: 22 Jul 94 11:37 AM

Page Number : 2  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

Sig. 2 in C:\HPCHEM\1\DATA\0722PQ22.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	1.009	116431	9524	BB	0.147	86.9176
2	2.234	17525	3761	BB	0.073	13.0824

Total area = 133956

=====



**Appendix E**

**SOIL VAPOR SAMPLE DATA WORKSHEETS AND  
CHROMATOGRAMS**

**AeroVironment Inc.**

Data Worksheet

GC/PID/ELCD

Sample ID: Eq. Blank 1

Control #: LABQC

Project name: Geosystems

Sample date: 08/18/94

Project#: 300677

File name: 0818B12

Location: No. Hollywood

Analysis: 8010/8020

Analyst: Jay Berger

Sampled by: NC

Lab ID: Truck 1

GC ID: GC2 PID/ELCD

Sample type: EB1

Calib std: no

Sample time: 09:52

Received time: 09:55

Injection time: 10:03

Probe depth: NA

Purge volume: NA

Sample flow: NA

Vacuum: NA

Syringe: 15

Dilution Factor: 1

Calibration date: 07/22/94

Injection volum 0.5 mL

18Th.

18Th.

Feet

CC

CC/min

"H2O

Plastic 1cc

Compound	Standard		Sample		
	RT	Avg. CF	RT	Area	ug/L
Dichlorodifluoromethane	0.59	138477		0	0.00
Vinyl chloride	0.71	271379		0	0.00
Chloroethane	0.87	195402		0	0.00
Trichlorofluoromethane	0.97	290771		0	0.00
1,1,2-Trichloro-trifluoroethane	1.23	334184		0	0.00
1,1-Dichloroethene (1,1-DCE)	1.22	443468		0	0.00
Dichloromethane (Methylene chloride)	1.50	533175		0	0.00
trans-1,2-Dichloroethene(t-1,2-DCE)	1.67	486172		0	0.00
1,1-Dichloroethane (1,1-DCA)	1.96	499909		0	0.00
cis-1,2-Dichloroethene (c-1,2-DCE)	2.46	501846		0	0.00
Chloroform	2.81	644803		0	0.00
1,1,1-Trichloroethane (1,1,1-TCA)	2.97	559745		0	0.00
Carbon tetrachloride	3.16	660954		0	0.00
Benzene	3.41	13196		0	0.00
1,2-Dichloroethane (1,2-DCA)	3.48	536556		0	0.00
Trichloroethene (TCE)	4.52	581271		0	0.00
Toluene	7.02	12282		0	0.00
1,1,2-Trichloroethane (1,1,2-TCA)	7.82	538285		0	0.00
Tetrachloroethene (PCE)	7.94	640559		0	0.00
1,1,1,2-Tetrachloroethane	9.49	607279		0	0.00
Ethylbenzene	9.53	10974		0	0.00
m&p-Xylene	9.73	12790		0	0.00
o-Xylene	10.30	10909		0	0.00
1,1,2,2-Tetrachloroethane	11.41	602475		0	0.00

Total peaks of PID: 0  
Total peaks of ELCD: 0  
Unidentified peaks: 0

## Notes:

- 1-"Standard RT" is the retention time for the standard.
- 2-"Standard AVE. CF" is the average calibration factor for this instrument.
- 3-"Sample area" is the area under the peak.
- 4-"Sample ug/L" is the concentration of the analyte in the sample

**AeroVironment Inc.****Analysis Results**

GC/PID/ELCD

Sample ID: Eq. Blank 1

Control #: LABQC

Sample date: 08/18/94  
Project#: 300677  
Location: No. Hollywood  
Analysis: 8010/8020  
Sample type: EB1

Sampled by: NC  
Sample time: 09:52  
Probe depth: NA  
Dilution Factor: 1  
Injection volume: 0.50

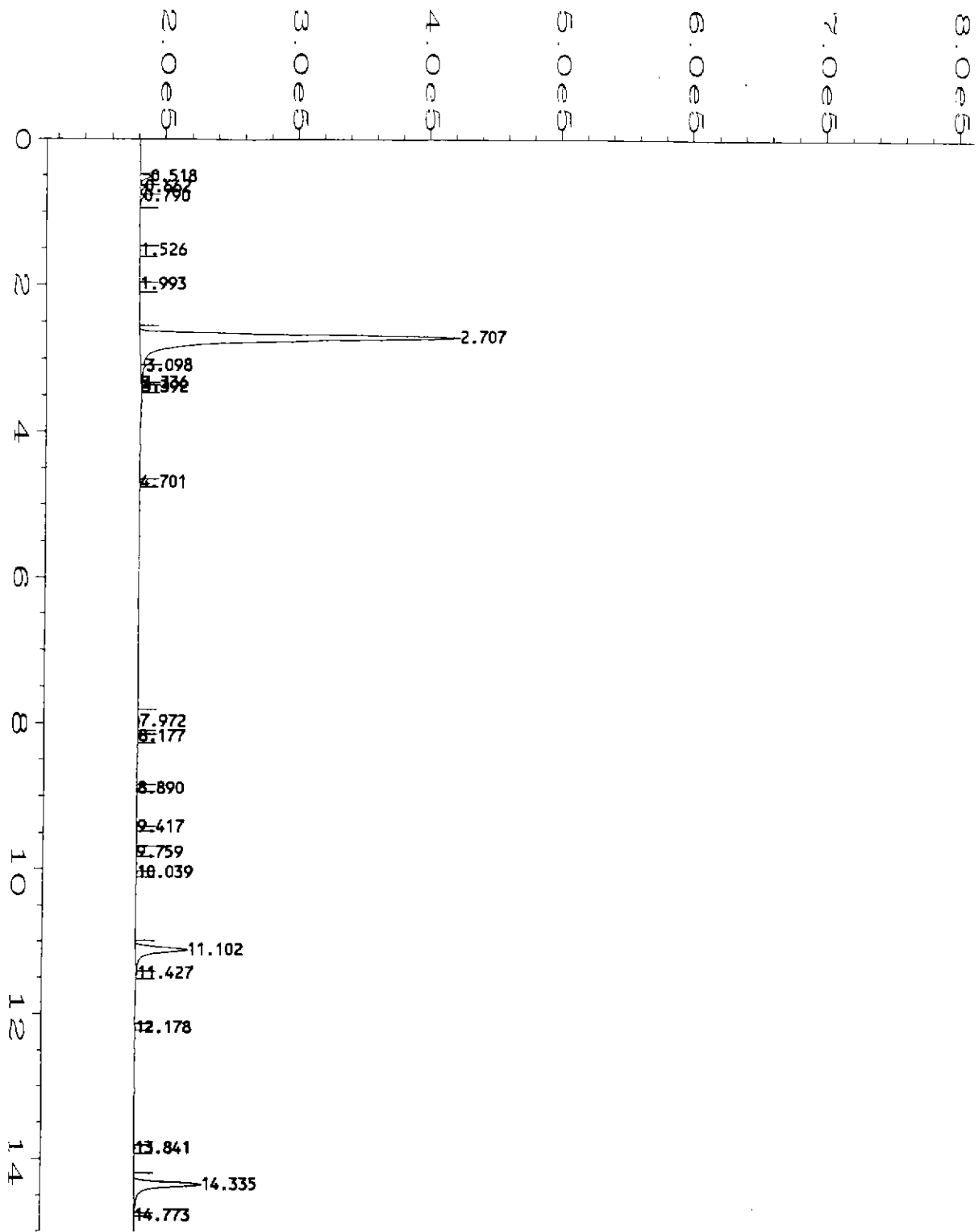
Feet  
mL

Compound	MDL ug/L	Sample ug/L
Dichlorodifluoromethane	0.42	<1.0
Vinyl chloride	0.16	<1.0
Chloroethane	0.10	<1.0
Trichlorofluoromethane	0.21	<1.0
1,1,2-Trichloro-trifluoroethane	0.10	<1.0
1,1-Dichloroethene (1,1-DCE)	0.18	<1.0
Dichloromethane (Methylene chloride)	0.15	<1.0
trans-1,2-Dichloroethene(t-1,2-DCE)	0.18	<1.0
1,1-Dichloroethane (1,1-DCA)	0.17	<1.0
cis-1,2-Dichloroethene (c-1,2-DCE)	0.16	<1.0
Chloroform	0.22	<1.0
1,1,1-Trichloroethane (1,1,1-TCA)	0.19	<1.0
Carbon tetrachloride	0.53	<1.0
Benzene	0.87	<1.0
1,2-Dichloroethane (1,2-DCA)	0.26	<1.0
Trichloroethene (TCE)	0.16	<1.0
Toluene	0.18	<1.0
1,1,2-Trichloroethane (1,1,2-TCA)	0.17	<1.0
Tetrachloroethene (PCE)	0.21	<1.0
1,1,1,2-Tetrachloroethane	0.31	<1.0
Ethylbenzene	0.23	<1.0
m&p-Xylene	0.27	<1.0
o-Xylene	0.41	<1.0
1,1,2,2-Tetrachloroethane	0.22	<1.0

**Notes:**

1-"MDL ug/L" is the method limit.

2-"Sample ug/L" is the concentration of the analyte in the sample



Data File Name : C:\HPCHEM\1\DATA\0818HB12.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : Eq. Blank 1  
 Run Time Bar Code:  
 Acquired on : 18 Aug 94 10:03 AM  
 Report Created on: 18 Aug 94 10:18 AM  
 Sample Info :

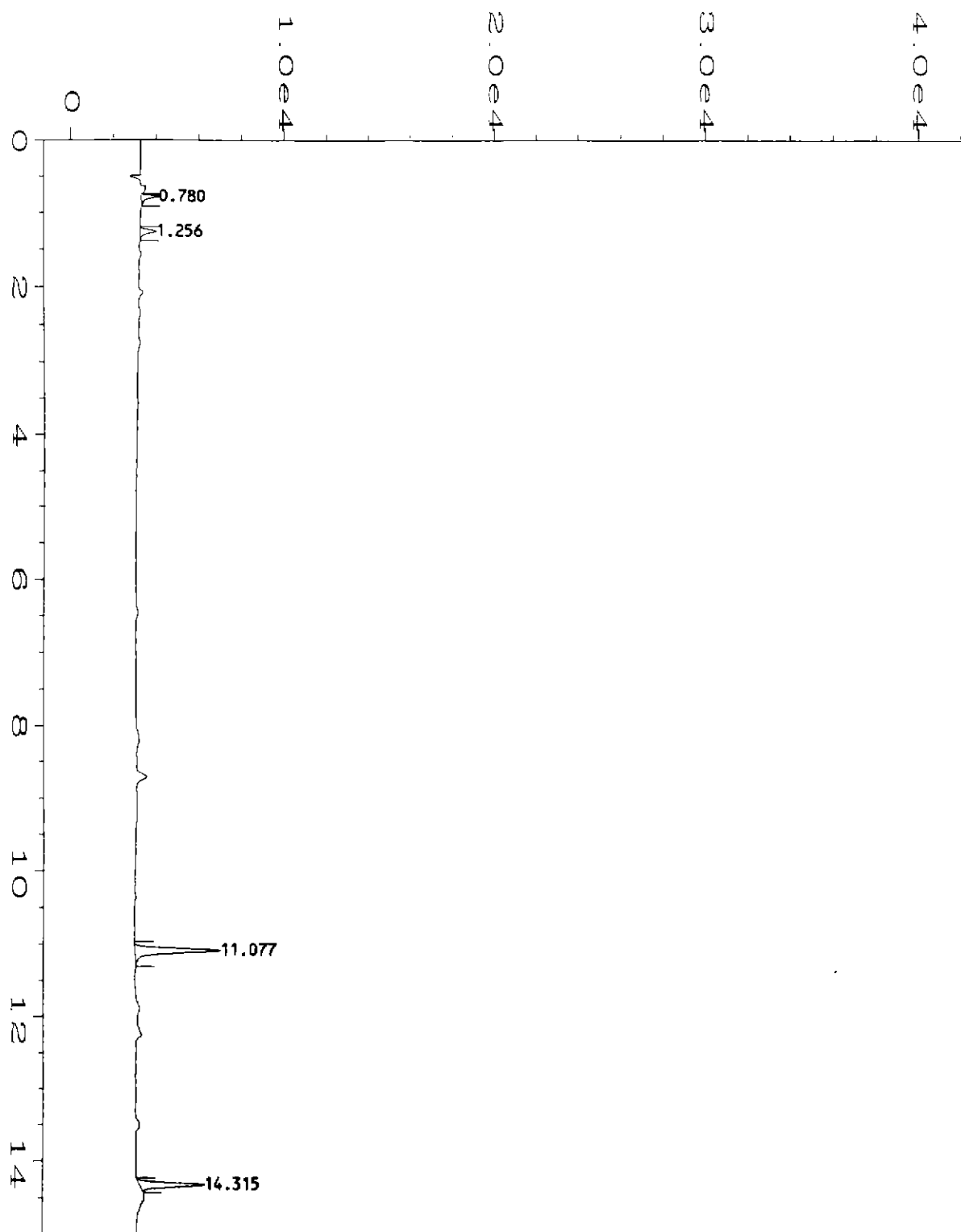
Page Number : 1  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\1\DATA\0818HB12.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : Eq. Blank 1  
 Run Time Bar Code:  
 Acquired on : 18 Aug 94 10:03 AM  
 Report Created on: 18 Aug 94 10:18 AM

Page Number : 2  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Sig. 1 in C:\HPCHEM\1\DATA\0818HB12.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.518	30821	8081	VV	0.059	1.4016
2	0.662	12775	3635	VV	0.050	0.5809
3	0.790	11344	2576	VV	0.063	0.5158
4	1.526	2703	724	BV	0.054	0.1229
5	1.993	1687	636	PV	0.037	0.0767
6	2.707	1599946	242714	PV	0.098	72.7563
7	3.098	23613	4262	VV	0.070	1.0738
8	3.336	1187	676	VV	0.029	0.0540
9	3.392	2092	509	VB	0.069	0.0951
10	4.701	964	518	PV	0.027	0.0438
11	7.972	8252	1430	BV	0.073	0.3752
12	8.177	1796	805	BB	0.031	0.0817
13	8.890	1056	535	PV	0.030	0.0480
14	9.417	1374	613	BV	0.037	0.0625
15	9.759	2641	567	PV	0.062	0.1201
16	10.039	1088	525	PV	0.033	0.0495
17	11.102	223288	38683	BV	0.083	10.1539
18	11.427	2732	1197	VV	0.033	0.1242
19	12.178	720	543	BV	0.022	0.0327
20	13.841	2607	1276	PV	0.030	0.1185
21	14.335	265911	50930	BV	0.075	12.0921
22	14.773	451	184	VV	0.041	0.0205



Data File Name : C:\HPCHEM\1\DATA\0818PB12.D  
Operator : JAY BERGER  
Instrument : INSTRUMEN  
Sample Name : Eq. Blank 1  
Run Time Bar Code:  
Acquired on : 18 Aug 94 10:03 AM  
Report Created on: 18 Aug 94 10:19 AM  
Sample Info :

Page Number : 1  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\1\DATA\0818PB12.D  
Operator : JAY BERGER  
Instrument : INSTRUMEN  
Sample Name : Eq. Blank 1  
Run Time Bar Code:  
Acquired on : 18 Aug 94 10:03 AM  
Report Created on: 18 Aug 94 10:19 AM

Page Number : 2  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

Sig. 2 in C:\HPCHEM\1\DATA\0818PB12.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.780	2627	829	VB	0.046	7.5145
2	1.256	2730	756	BB	0.054	7.8112
3	11.077	18038	4013	BB	0.068	51.6066
4	14.315	11558	3027	BB	0.057	33.0676

Total area = 34953

=====

**AeroVironment Inc.**Data Worksheet  
GC/PID/ELCD

Sample ID: SG-08R

Control #: 818941

Project name: Geosystems  
Sample date: 08/18/94  
Project#: 300677  
File name: NV-1050  
Location: No. Hollywood  
Analysis: 8010/8020  
Analyst: Jay Berger  
Sampled by: NC  
Lab ID: Truck 1  
GC ID: GC2 PID/ELCD  
Sample type: N1  
Calib std: no

Sample time: 11:02  
Received time: 11:06 18Th.  
Injection time: 11:10 18Th.  
Probe depth: 5 Feet  
Purge volume: 40 CC  
Sample flow: NA CC/min  
Vacuum: NA "H2O  
Syringe: 2 Plastic 1cc  
Dilution factor: 4  
Calibration date: 07/22/94  
Injection volum 0.125 mL

Compound	Standard		Sample		
	RT	Avg. CF	RT	Area	ug/L
Dichlorodifluoromethane	0.59	138477		0	0.00
Vinyl chloride	0.71	271379		0	0.00
Chloroethane	0.87	195402		0	0.00
Trichlorofluoromethane	0.97	290771		0	0.00
1,1,2-Trichloro-trifluoroethane	1.23	334184		0	0.00
1,1-Dichloroethene (1,1-DCE)	1.22	443468	1.27	105253	1.90
Dichloromethane (Methylene chloride)	1.50	533175		0	0.00
trans-1,2-Dichloroethene (t-1,2-DCE)	1.67	486172		0	0.00
1,1-Dichloroethane (1,1-DCA)	1.96	499909		0	0.00
cis-1,2-Dichloroethene (c-1,2-DCE)	2.46	501846		0	0.00
Chloroform	2.81	644803		0	0.00
1,1,1-Trichloroethane (1,1,1-TCA)	2.97	559745	3.00	3442079	49.19
Carbon tetrachloride	3.16	660954		0	0.00
Benzene	3.41	13196		0	0.00
1,2-Dichloroethane (1,2-DCA)	3.48	536556		0	0.00
Trichloroethene (TCE)	4.52	581271	4.58	690519	9.50
Toluene	7.02	12282		0	0.00
1,1,2-Trichloroethane (1,1,2-TCA)	7.82	538285		0	0.00
Tetrachloroethene (PCE)	7.94	640559	7.98	10275700	128.33
1,1,1,2-Tetrachloroethane	9.49	607279		0	0.00
Ethylbenzene	9.53	10974		0	0.00
m&p-Xylene	9.73	12790		0	0.00
o-Xylene	10.30	10909		0	0.00
1,1,2,2-Tetrachloroethane	11.41	602475		0	0.00

Total peaks of PID: 2  
Total peaks of ELCD: 4  
Unidentified peaks: 0

**Notes:**

- 1-"Standard RT" is the retention time for the standard.
- 2-"Standard AVE. CF" is the average calibration factor for this instrument.
- 3-"Sample area" is the area under the peak.
- 4-"Sample ug/L" is the concentration of the analyte in the sample



**AeroVironment Inc.****Analysis Results**

GC/PID/ELCD

Sample ID: SG-08R

Control #: 818941

Sample date: 08/18/94

Project#: 300677

Location: No. Hollywood

Analysis: 8010/8020

Sample type: N1

Sampled by: NC

Sample time: 11:02

Probe depth: 5 Feet

Dilution factor: 4

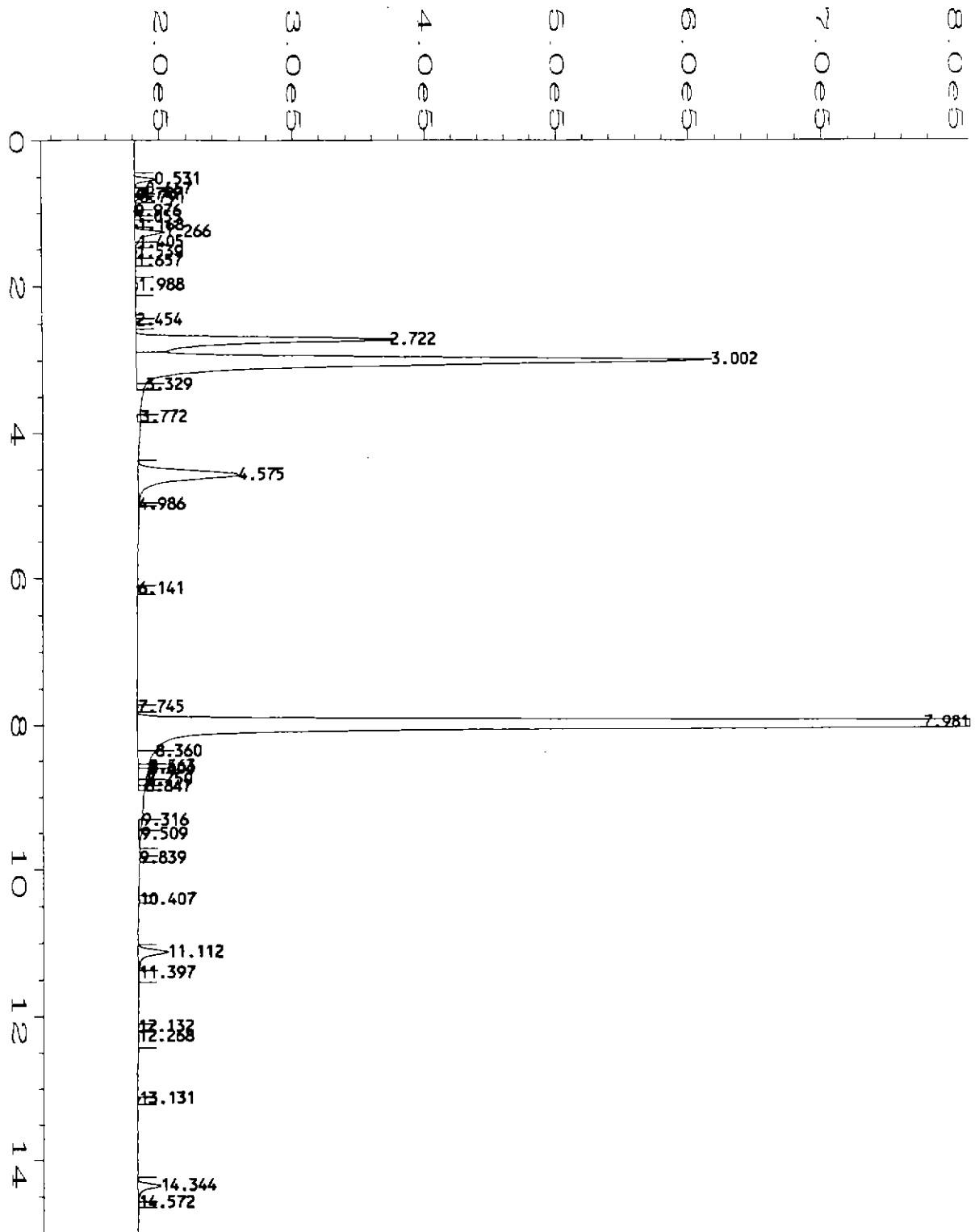
Injection volume: 0.13 mL

Compound	MDL ug/L	Sample ug/L
Dichlorodifluoromethane	0.42	<1.0
Vinyl chloride	0.16	<1.0
Chloroethane	0.10	<1.0
Trichlorofluoromethane	0.21	<1.0
1,1,2-Trichloro-trifluoroethane	1.00	<1.0
1,1-Dichloroethene (1,1-DCE)	0.18	1.90
Dichloromethane (Methylene chloride)	0.15	<1.0
trans-1,2-Dichloroethene(t-1,2-DCE)	0.18	<1.0
1,1-Dichloroethane (1,1-DCA)	0.17	<1.0
cis-1,2-Dichloroethene (c-1,2-DCE)	0.16	<1.0
Chloroform	0.22	<1.0
1,1,1-Trichloroethane (1,1,1-TCA)	0.19	49.19
Carbon tetrachloride	0.53	<1.0
Benzene	0.87	<1.0
1,2-Dichloroethane (1,2-DCA)	0.26	<1.0
Trichloroethene (TCE)	0.16	9.50
Toluene	0.18	<1.0
1,1,2-Trichloroethane (1,1,2-TCA)	0.17	<1.0
Tetrachloroethene (PCE)	0.21	128.33
1,1,1,2-Tetrachloroethane	0.31	<1.0
Ethylbenzene	0.23	<1.0
m&p-Xylene	0.27	<1.0
o-Xylene	0.41	<1.0
1,1,2,2-Tetrachloroethane	0.22	<1.0

**Notes:**

1-"MDL ug/L" is the method limit.

2-"Sample ug/L" is the concentration of the analyte in the sample



Data File Name : C:\HPCHEM\1\DATA\NV-F1050.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : SG-08R  
 Run Time Bar Code:  
 Acquired on : 18 Aug 94 11:10 AM  
 Report Created on: 18 Aug 94 11:25 AM  
 Sample Info : 4:1 Dilution

Page Number : 1  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\1\DATA\NV-F1050.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : SG-08R  
 Run Time Bar Code:  
 Acquired on : 18 Aug 94 11:10 AM  
 Report Created on: 18 Aug 94 11:25 AM

Page Number : 2  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Sig. 1 in C:\HPCHEM\1\DATA\NV-F1050.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.531	53875	15278	VV	0.051	0.3288
2	0.667	23204	8734	VV	0.039	0.1416
3	0.747	2775	1855	VV	0.025	0.0169
4	0.791	10600	3947	VV	0.039	0.0647
5	0.976	1745	548	PV	0.052	0.0107
6	1.055	1152	545	VV	0.033	0.0070
7	1.168	3746	2633	VV	0.022	0.0229
8	1.266	105253	22660	VV	0.066	0.6423
9	1.405	6970	2438	VV	0.048	0.0425
10	1.539	7261	1454	VV	0.063	0.0443
11	1.657	3148	1197	VV	0.035	0.0192
12	1.988	11190	1924	PV	0.078	0.0683
13	2.454	743	546	BV	0.022	0.0045
14	2.722	1178525	193339	BV	0.088	7.1918
15	3.002	3442079	435914	VV	0.103	21.0048
16	3.329	32298	6889	VV	0.078	0.1971
17	3.772	16227	2874	VV	0.082	0.0990
18	4.575	690519	75321	VV	0.118	4.2138
19	4.986	363	260	VV	0.023	0.0022
20	6.141	1540	689	PV	0.030	0.0094
21	7.745	1235	629	PV	0.036	0.0075
22	7.981	1.02757E+007	1640462	VV	0.094	62.7060
23	8.360	110544	13584	VV	0.136	0.6746

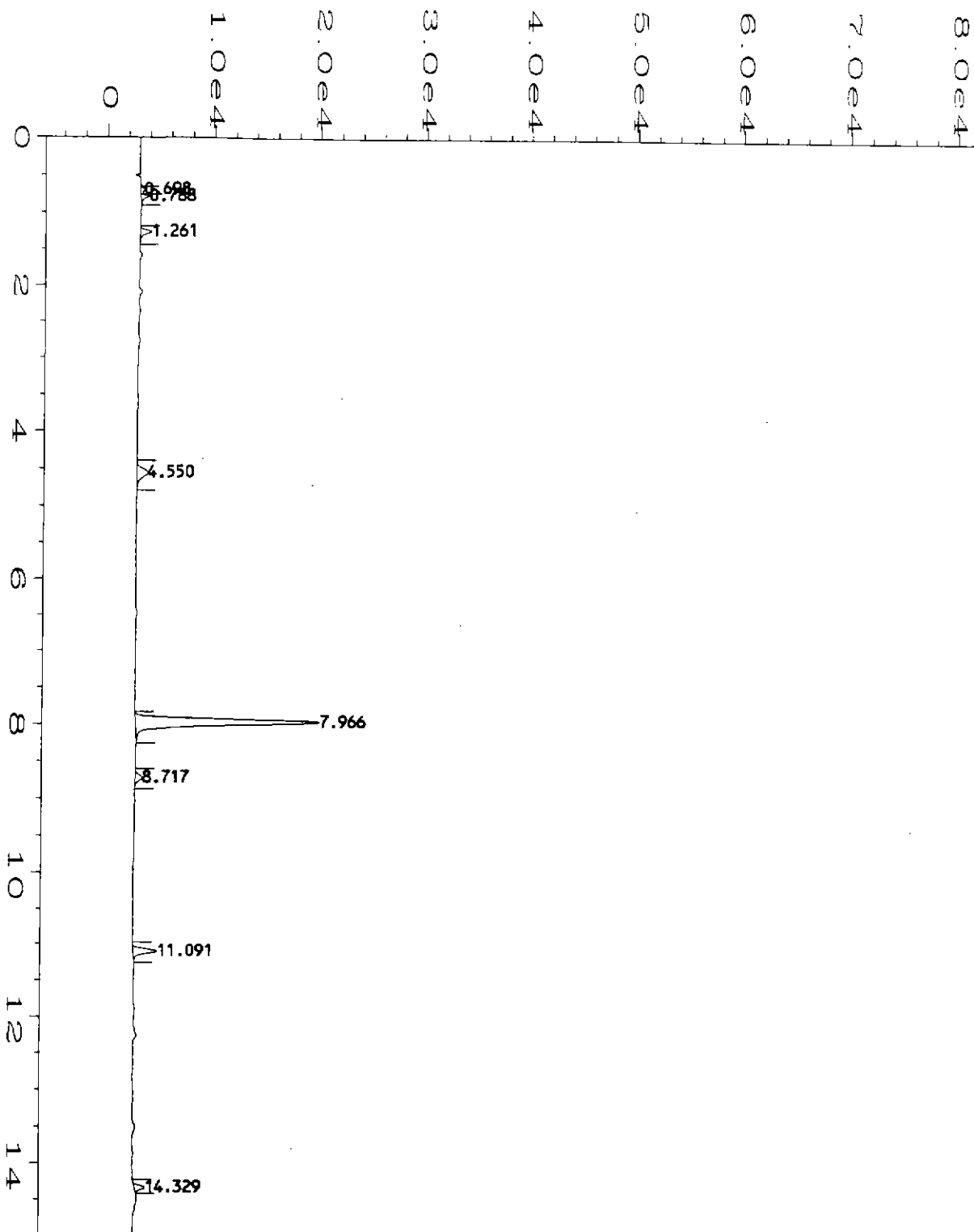
Data File Name : C:\HPCHEM\1\DATA\NV-F1050.D  
Operator : JAY BERGER  
Instrument : INSTRUMEN  
Sample Name : SG-08R  
Run Time Bar Code:  
Acquired on : 18 Aug 94 11:10 AM  
Report Created on: 18 Aug 94 11:25 AM

Page Number : 3  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

24	8.563	30222	8456	VV	0.047	0.1844
25	8.604	63171	8039	VV	0.131	0.3855
26	8.750	30031	6284	VV	0.080	0.1833
27	8.847	20092	5386	VV	0.051	0.1226
28	9.316	18553	2902	VV	0.082	0.1132
29	9.509	15474	1864	VV	0.104	0.0944
30	9.839	1315	567	PV	0.035	0.0080
31	10.407	1351	1030	PV	0.024	0.0082
32	11.112	125947	22512	PV	0.082	0.7686
33	11.397	3179	707	VV	0.059	0.0194
34	12.132	1557	638	PV	0.033	0.0095
35	12.268	4202	691	VV	0.081	0.0256
36	13.131	2469	1728	BB	0.021	0.0151
37	14.344	87476	17306	BV	0.074	0.5338
38	14.572	1375	696	VB	0.029	0.0084

Total area = 1.63871E+007

=====



Data File Name : C:\HPCHEM\1\DATA\NV-R1050.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : SG-08R  
 Run Time Bar Code:  
 Acquired on : 18 Aug 94 11:10 AM  
 Report Created on: 18 Aug 94 11:25 AM  
 Sample Info : 4:1 Dilution

Page Number : 1  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\1\DATA\NV-R1050.D  
Operator : JAY BERGER  
Instrument : INSTRUMEN  
Sample Name : SG-08R  
Run Time Bar Code:  
Acquired on : 18 Aug 94 11:10 AM  
Report Created on: 18 Aug 94 11:25 AM

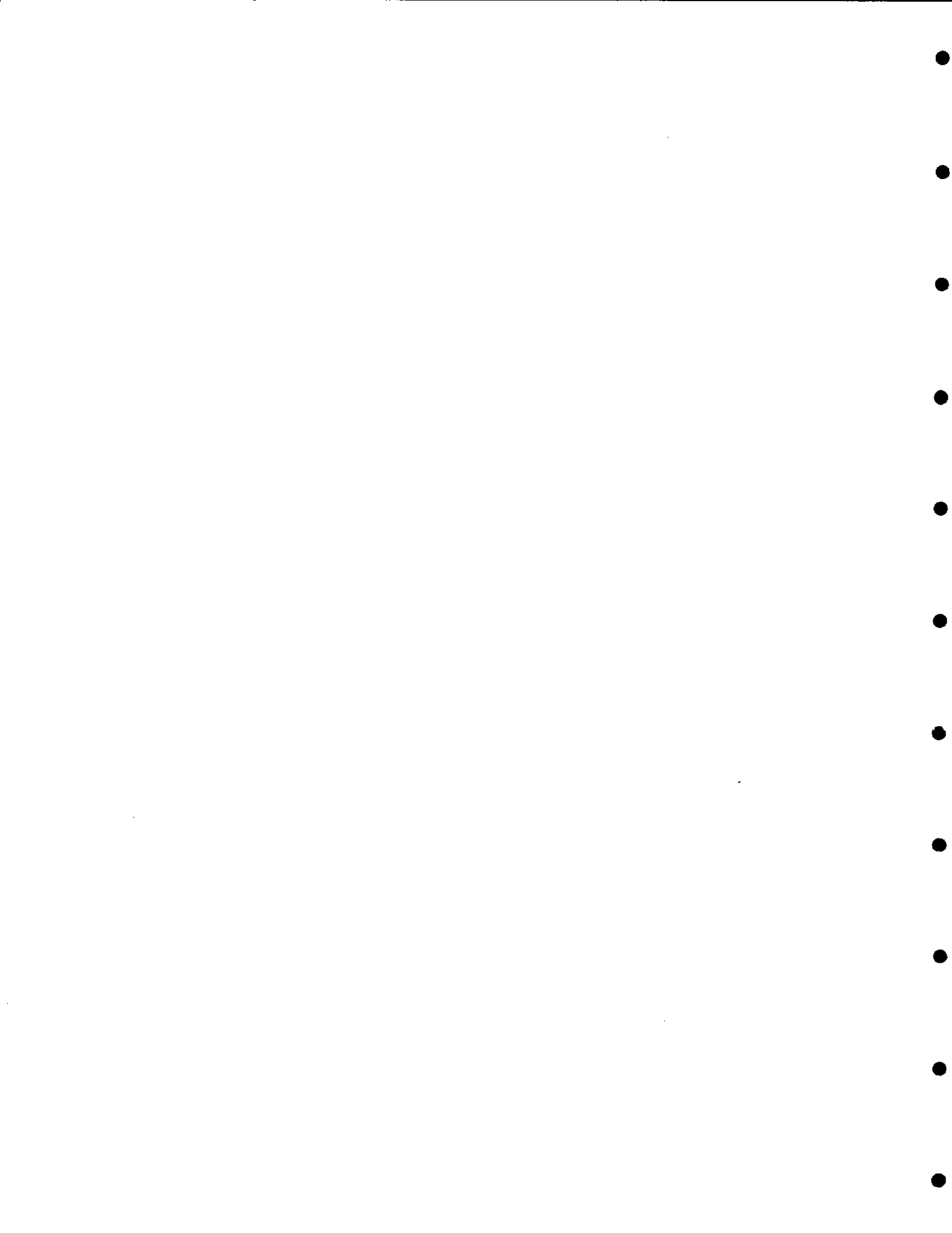
Page Number : 2  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

Sig. 2 in C:\HPCHEM\1\DATA\NV-R1050.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.698	1694	393	PV	0.065	1.2674
2	0.788	2409	804	VB	0.044	1.8025
3	1.261	4217	1065	BB	0.060	3.1545
4	4.550	8694	1048	BB	0.114	6.5042
5	7.966	99430	17288	BB	0.089	74.3849
6	8.717	3886	670	BB	0.092	2.9074
7	11.091	9767	2228	BB	0.068	7.3065
8	14.329	3572	975	BB	0.059	2.6726

Total area = 133670

=====



**AeroVironment Inc.**Data Worksheet  
GC/PID/ELCD

Sample ID: SG-13R

Control #: 818942

Project name: Geosystems

Sample date: 08/18/94

Project#: 300677

File name: NV-1051

Location: No. Hollywood

Analysis: 8010/8020

Analyst: Jay Berger

Sampled by: NC

Lab ID: Truck 1

GC ID: GC2 PID/ELCD

Sample type: N1

Calib std: no

Sample time: 11:31

Received time: 11:38

Injection time: 11:42

Probe depth: 5

Purge volume: 40

Sample flow: NA

Vacuum: NA

Syringe: 3

Dilution factor: 5

Calibration date: 07/22/94

Injection volum 0.1

18Th.

18Th.

Feet

CC

CC/min

"H2O

Plastic 1cc

mL

Compound	Standard		Sample		
	RT	Avg. CF	RT	Area	ug/L
Dichlorodifluoromethane	0.59	138477		0	0.00
Vinyl chloride	0.71	271379		0	0.00
Chloroethane	0.87	195402		0	0.00
Trichlorofluoromethane	0.97	290771		0	0.00
1,1,2-Trichloro-trifluoroethane	1.23	334184		0	0.00
1,1-Dichloroethene (1,1-DCE)	1.22	443468	1.27	33799	0.76
Dichloromethane (Methylene chloride)	1.50	533175		0	0.00
trans-1,2-Dichloroethene(t-1,2-DCE)	1.67	486172		0	0.00
1,1-Dichloroethane (1,1-DCA)	1.96	499909		0	0.00
cis-1,2-Dichloroethene (c-1,2-DCE)	2.46	501846		0	0.00
Chloroform	2.81	644803		0	0.00
1,1,1-Trichloroethane (1,1,1-TCA)	2.97	559745	3.01	2158867	38.57
Carbon tetrachloride	3.16	660954		0	0.00
Benzene	3.41	13196		0	0.00
1,2-Dichloroethane (1,2-DCA)	3.48	536556		0	0.00
Trichloroethene (TCE)	4.52	581271	4.57	471745	8.12
Toluene	7.02	12282		0	0.00
1,1,2-Trichloroethane (1,1,2-TCA)	7.82	538285		0	0.00
Tetrachloroethene (PCE)	7.94	640559	7.98	10203800	159.30
1,1,1,2-Tetrachloroethane	9.49	607279		0	0.00
Ethylbenzene	9.53	10974		0	0.00
m&p-Xylene	9.73	12790		0	0.00
o-Xylene	10.30	10909		0	0.00
1,1,2,2-Tetrachloroethane	11.41	602475		0	0.00

Total peaks of PID: 2  
Total peaks of ELCD: 4  
Unidentified peaks: 0

## Notes:

1-"Standard RT" is the retention time for the standard.

2-"Standard AVE. CF" is the average calibration factor for this instrument.

3-"Sample area" is the area under the peak.

4-"Sample ug/L" is the concentration of the analyte in the sample



**AeroVironment Inc.****Analysis Results**

GC/PID/ELCD

Sample ID: SG-13R

Control #: 818942

Sample date: 08/18/94

Project#: 300677

Location: No. Hollywood

Analysis: 8010/8020

Sample type: N1

Sampled by: NC

Sample time: 11:31

Probe depth: 5 Feet

Dilution factor: 5

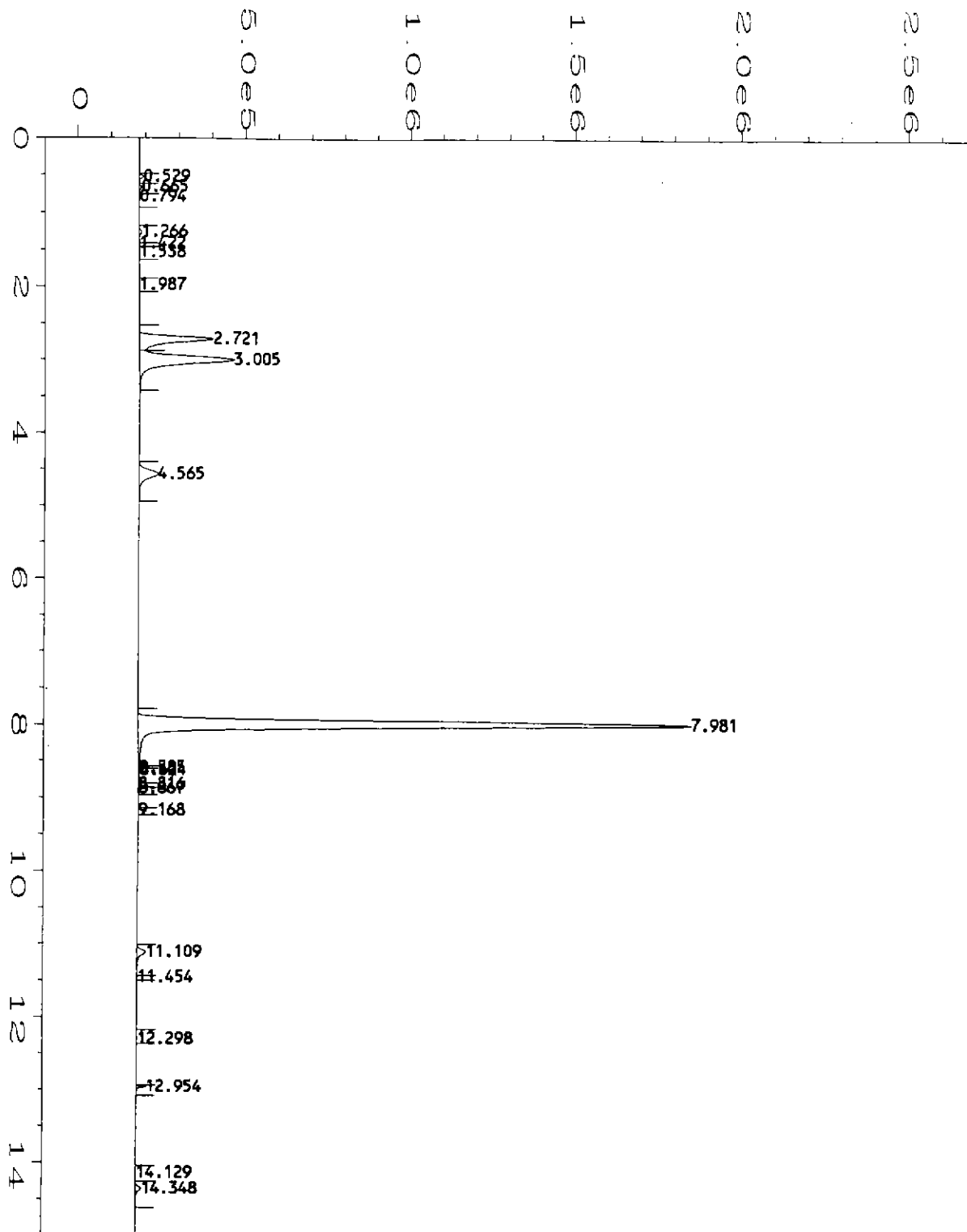
Injection volume: 0.10 mL

Compound	MDL ug/L	Sample ug/L
Dichlorodifluoromethane	0.42	<1.0
Vinyl chloride	0.16	<1.0
Chloroethane	0.10	<1.0
Trichlorofluoromethane	0.21	<1.0
1,1,2-Trichloro-trifluoroethane	1.00	<1.0
1,1-Dichloroethene (1,1-DCE)	0.18	0.76
Dichloromethane (Methylene chloride)	0.15	<1.0
trans-1,2-Dichloroethene(t-1,2-DCE)	0.18	<1.0
1,1-Dichloroethane (1,1-DCA)	0.17	<1.0
cis-1,2-Dichloroethene (c-1,2-DCE)	0.16	<1.0
Chloroform	0.22	<1.0
1,1,1-Trichloroethane (1,1,1-TCA)	0.19	38.57
Carbon tetrachloride	0.53	<1.0
Benzene	0.87	<1.0
1,2-Dichloroethane (1,2-DCA)	0.26	<1.0
Trichloroethene (TCE)	0.16	8.12
Toluene	0.18	<1.0
1,1,2-Trichloroethane (1,1,2-TCA)	0.17	<1.0
Tetrachloroethene (PCE)	0.21	159.30
1,1,1,2-Tetrachloroethane	0.31	<1.0
Ethylbenzene	0.23	<1.0
m&p-Xylene	0.27	<1.0
o-Xylene	0.41	<1.0
1,1,2,2-Tetrachloroethane	0.22	<1.0

**Notes:**

1-"MDL ug/L" is the method limit.

2-"Sample ug/L" is the concentration of the analyte in the sample



Data File Name : C:\HPCHEM\1\DATA\NV-F1051.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : SG-13R  
 Run Time Bar Code:  
 Acquired on : 18 Aug 94 11:42 AM  
 Report Created on: 18 Aug 94 11:57 AM  
 Sample Info : 5:1 Dilution

Page Number : 1  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\1\DATA\NV-F1051.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : SG-13R  
 Run Time Bar Code:  
 Acquired on : 18 Aug 94 11:42 AM  
 Report Created on: 18 Aug 94 11:57 AM

Page Number : 2  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Sig. 1 in C:\HPCHEM\1\DATA\NV-F1051.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.529	38929	12951	BV	0.044	0.2668
2	0.665	22778	8163	PV	0.039	0.1561
3	0.794	9045	2574	VV	0.051	0.0620
4	1.266	33799	7135	PV	0.072	0.2317
5	1.422	1222	704	VV	0.029	0.0084
6	1.538	4445	1017	VB	0.056	0.0305
7	1.987	3437	720	PV	0.062	0.0236
8	2.721	1306081	221128	PV	0.086	8.9520
9	3.005	2158867	282278	VV	0.103	14.7971
10	4.565	471745	56543	PV	0.116	3.2334
11	7.981	1.02038E+007	1671932	PV	0.096	69.9374
12	8.585	7556	3891	VV	0.032	0.0518
13	8.624	34700	4120	VV	0.103	0.2378
14	8.816	5493	1808	VV	0.051	0.0376
15	8.867	8491	1582	VV	0.089	0.0582
16	9.168	1565	596	PV	0.035	0.0107
17	11.109	144169	26424	PV	0.080	0.9881
18	11.454	572	289	VV	0.028	0.0039
19	12.298	2996	655	BV	0.064	0.0205
20	12.954	40453	30335	PV	0.020	0.2773
21	14.129	5530	2066	VV	0.045	0.0379
22	14.348	84206	16363	PV	0.076	0.5772

Data File Name : C:\HPCHEM\1\DATA\NV-F1051.D

Operator : JAY BERGER

Instrument : INSTRUMEN

Sample Name : SG-13R

Run Time Bar Code:

Acquired on : 18 Aug 94 11:42 AM

Report Created on: 18 Aug 94 11:57 AM

Page Number : 3

Vial Number :

Injection Number :

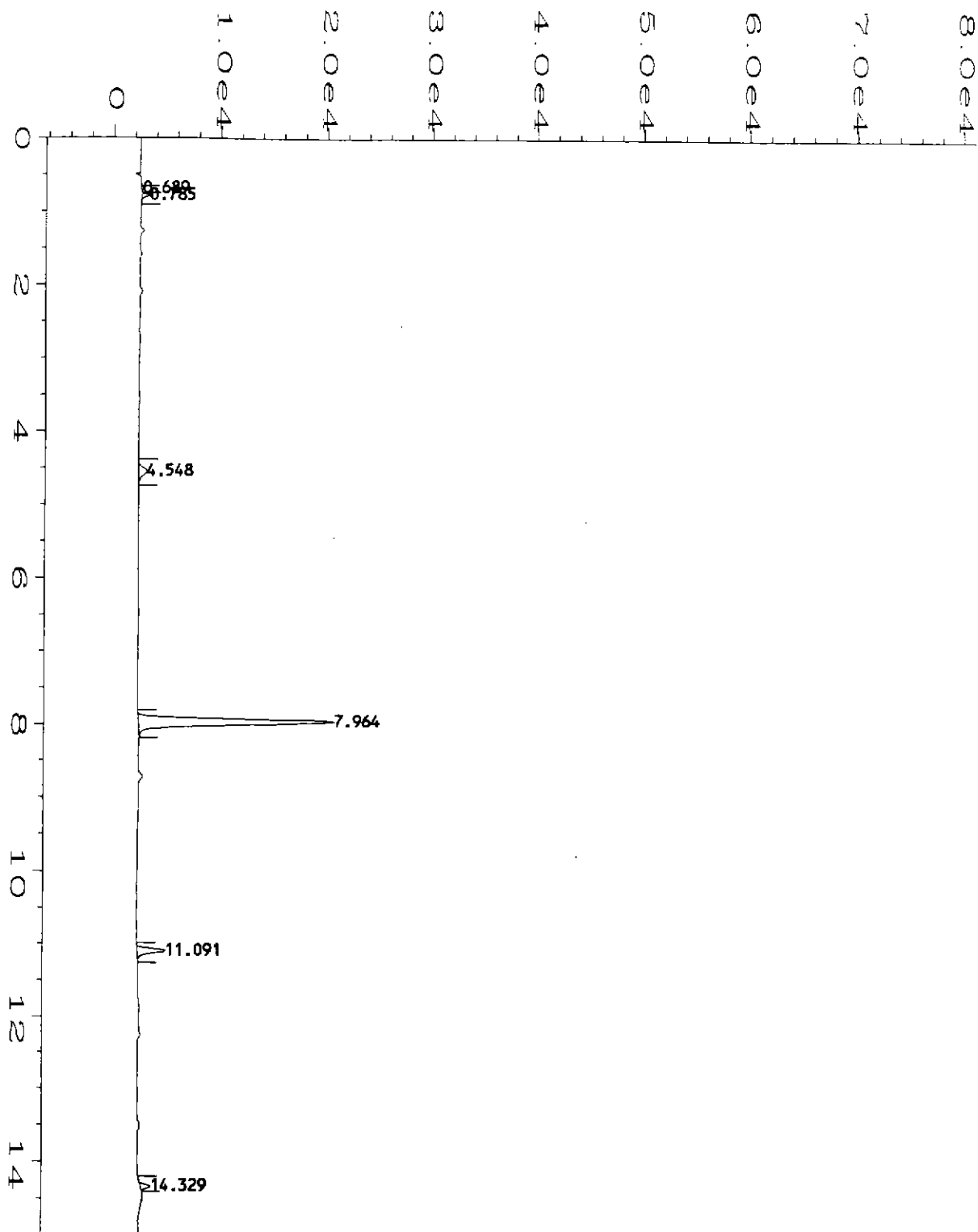
Sequence Line :

Instrument Method: SG-1.MTH

Analysis Method : SG-1.MTH

Total area = 1.45898E+007

=====



Data File Name : C:\HPCHEM\1\DATA\NV-R1051.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : SG-13R  
 Run Time Bar Code:  
 Acquired on : 18 Aug 94 11:42 AM  
 Report Created on: 18 Aug 94 11:57 AM  
 Sample Info : 5:1 Dilution

Page Number : 1  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Data File Name	: C:\HPCHEM\1\DATA\NV-R1051.D	Page Number	: 2
Operator	: JAY BERGER	Vial Number	:
Instrument	: INSTRUMEN	Injection Number	:
Sample Name	: SG-13R	Sequence Line	:
Run Time Bar Code:		Instrument Method:	SG-1.MTH
Acquired on	: 18 Aug 94 11:42 AM	Analysis Method	: SG-1.MTH
Report Created on:	18 Aug 94 11:57 AM		

Sig. 2 in C:\HPCHEM\1\DATA\NV-R1051.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.689	653	206	PB	0.045	0.5225
2	0.785	1886	765	BB	0.036	1.5092
3	4.548	5846	783	BB	0.107	4.6769
4	7.964	101823	18382	BB	0.086	81.4590
5	11.091	11642	2657	BB	0.068	9.3133
6	14.329	3149	933	BB	0.054	2.5191

Total area = 124999

=====



**AeroVironment Inc.**Data Worksheet  
GC/PID/ELCD

Sample ID: SG-11R

Control #: 818944

Project name: Geosystems

Sample date: 08/18/94

Project#: 300677

File name: NV-1053

Location: No. Hollywood

Analysis: 8010/8020

Analyst: Jay Berger

Sampled by: NC

Lab ID: Truck 1

GC ID: GC2 PID/ELCD

Sample type: N1

Calib std: no

Sample time: 12:01

Received time: 12:05

Injection time: 12:31

Probe depth: 5

Purge volume: 40

Sample flow: NA

Vacuum: NA

Syringe: 4

Dilution factor: 20

Calibration date: 07/22/94

Injection volum 0.025

18Th.

18Th.

Feet

CC

CC/min

"H2O

Plastic 1cc

mL

Compound	Standard		Sample		
	RT	Avg. CF	RT	Area	ug/L
Dichlorodifluoromethane	0.59	138477		0	0.00
Vinyl chloride	0.71	271379		0	0.00
Chloroethane	0.87	195402		0	0.00
Trichlorofluoromethane	0.97	290771		0	0.00
1,1,2-Trichloro-trifluoroethane	1.23	334184		0	0.00
1,1-Dichloroethene (1,1-DCE)	1.22	443468	1.32	5087	0.46
Dichloromethane (Methylene chloride)	1.50	533175		0	0.00
trans-1,2-Dichloroethene(t-1,2-DCE)	1.67	486172		0	0.00
1,1-Dichloroethane (1,1-DCA)	1.96	499909		0	0.00
cis-1,2-Dichloroethene (c-1,2-DCE)	2.46	501846		0	0.00
Chloroform	2.81	644803		0	0.00
1,1,1-Trichloroethane (1,1,1-TCA)	2.97	559745	3.05	886169	63.33
Carbon tetrachloride	3.16	660954		0	0.00
Benzene	3.41	13196		0	0.00
1,2-Dichloroethane (1,2-DCA)	3.48	536556		0	0.00
Trichloroethene (TCE)	4.52	581271	4.61	74280	5.11
Toluene	7.02	12282		0	0.00
1,1,2-Trichloroethane (1,1,2-TCA)	7.82	538285		0	0.00
Tetrachloroethene (PCE)	7.94	640559	7.99	14215000	887.66
1,1,1,2-Tetrachloroethane	9.49	607279		0	0.00
Ethylbenzene	9.53	10974		0	0.00
m&p-Xylene	9.73	12790		0	0.00
o-Xylene	10.30	10909		0	0.00
1,1,2,2-Tetrachloroethane	11.41	602475		0	0.00

Total peaks of PID: 2  
Total peaks of ELCD: 4  
Unidentified peaks: 0

## Notes:

1-"Standard RT" is the retention time for the standard.

2-"Standard AVE. CF" is the average calibration factor for this instrument.

3-"Sample area" is the area under the peak.

4-"Sample ug/L" is the concentration of the analyte in the sample



**AeroVironment Inc.****Analysis Results**

GC/PID/ELCD

Sample ID: SG-11R

Control #: 818944

Sample date: 08/18/94

Project#: 300677

Location: No. Hollywood

Analysis: 8010/8020

Sample type: N1

Sampled by: NC

Sample time: 12:01

Probe depth: 5 Feet

Dilution factor: 20

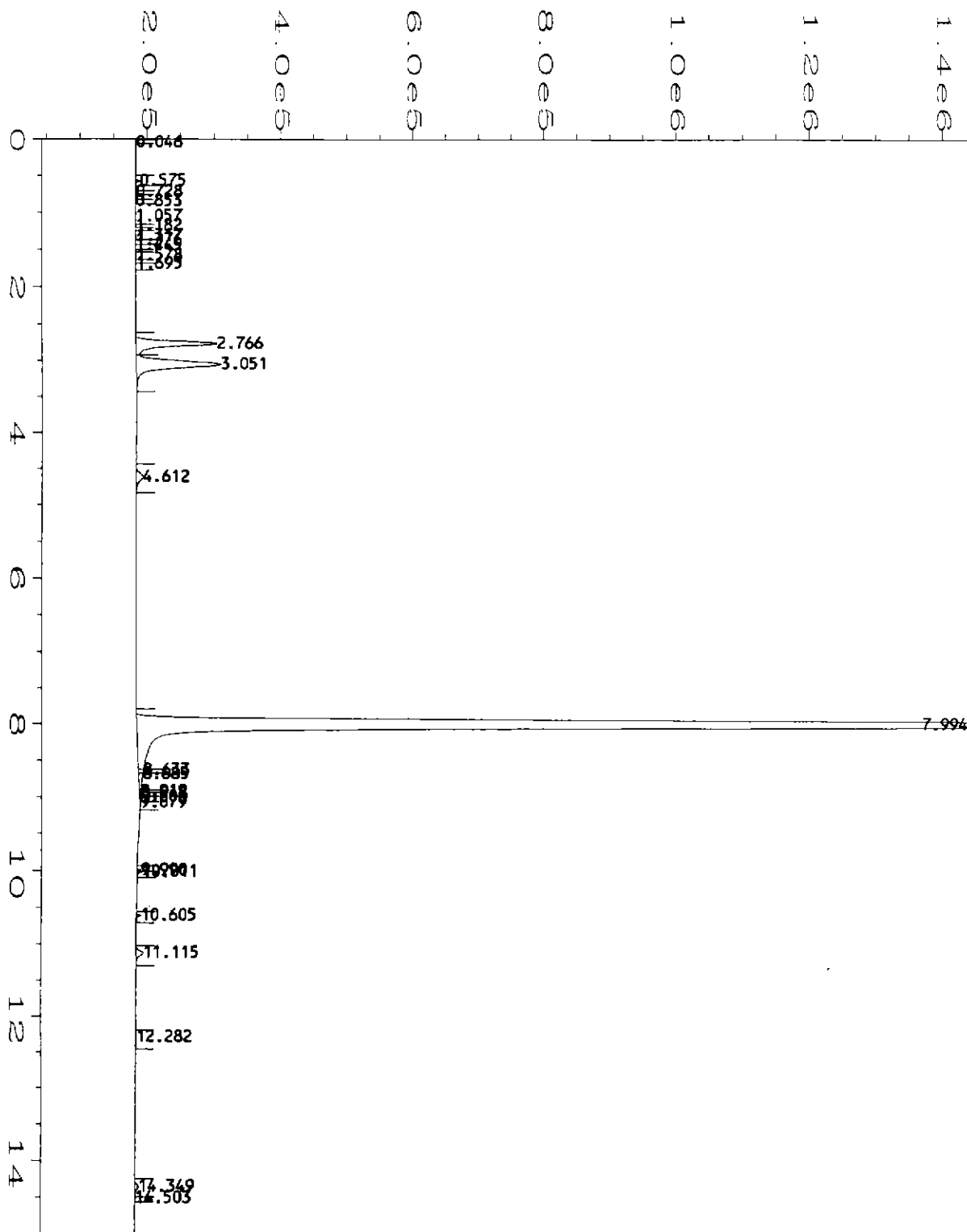
Injection volume: 0.03 mL

Compound	MDL ug/L	Sample ug/L
Dichlorodifluoromethane	0.42	<1.0
Vinyl chloride	0.16	<1.0
Chloroethane	0.10	<1.0
Trichlorofluoromethane	0.21	<1.0
1,1,2-Trichloro-trifluoroethane	1.00	<1.0
1,1-Dichloroethene (1,1-DCE)	0.18	0.46
Dichloromethane (Methylene chloride)	0.15	<1.0
trans-1,2-Dichloroethene (t-1,2-DCE)	0.18	<1.0
1,1-Dichloroethane (1,1-DCA)	0.17	<1.0
cis-1,2-Dichloroethene (c-1,2-DCE)	0.16	<1.0
Chloroform	0.22	<1.0
1,1,1-Trichloroethane (1,1,1-TCA)	0.19	63.33
Carbon tetrachloride	0.53	<1.0
Benzene	0.87	<1.0
1,2-Dichloroethane (1,2-DCA)	0.26	<1.0
Trichloroethene (TCE)	0.16	5.11
Toluene	0.18	<1.0
1,1,2-Trichloroethane (1,1,2-TCA)	0.17	<1.0
Tetrachloroethene (PCE)	0.21	887.66
1,1,1,2-Tetrachloroethane	0.31	<1.0
Ethylbenzene	0.23	<1.0
m&p-Xylene	0.27	<1.0
o-Xylene	0.41	<1.0
1,1,2,2-Tetrachloroethane	0.22	<1.0

**Notes:**

1-"MDL ug/L" is the method limit.

2-"Sample ug/L" is the concentration of the analyte in the sample



Data File Name : C:\HPCHEM\1\DATA\NV-F1053.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : SG-11R  
 Run Time Bar Code:  
 Acquired on : 18 Aug 94 12:31 PM  
 Report Created on: 18 Aug 94 12:46 PM  
 Sample Info : 20:1 Dilution

Page Number : 1  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\1\DATA\NV-F1053.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : SG-11R  
 Run Time Bar Code:  
 Acquired on : 18 Aug 94 12:31 PM  
 Report Created on: 18 Aug 94 12:46 PM

Page Number : 2  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Sig. 1 in C:\HPCHEM\1\DATA\NV-F1053.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.046	847	576	BV	0.024	0.0053
2	0.575	11149	6406	VB	0.027	0.0695
3	0.728	1592	1209	BV	0.022	0.0099
4	0.853	1770	1133	VV	0.025	0.0110
5	1.057	6095	586	PV	0.128	0.0380
6	1.182	686	436	VV	0.023	0.0043
7	1.317	5087	1184	VV	0.061	0.0317
8	1.376	1896	718	VV	0.044	0.0118
9	1.445	1980	675	VV	0.041	0.0123
10	1.578	3227	855	VV	0.052	0.0201
11	1.695	1514	569	VV	0.036	0.0094
12	2.766	605186	121654	BV	0.076	3.7722
13	3.051	886169	126758	VV	0.100	5.5236
14	4.612	74280	9810	BV	0.099	0.4630
15	7.994	1.4215E+007	2402540	PV	0.090	88.6044
16	8.633	21583	7622	VV	0.047	0.1345
17	8.685	61529	6493	VV	0.118	0.3835
18	8.919	3877	2477	VV	0.026	0.0242
19	8.948	7806	2741	VV	0.037	0.0487
20	9.000	6563	1860	VV	0.059	0.0409
21	9.079	4595	1249	VV	0.061	0.0286
22	9.990	7531	6252	PV	0.020	0.0469
23	10.011	10982	7281	VB	0.021	0.0685

Data File Name : C:\HPCHEM\1\DATA\NV-F1053.D

Operator : JAY BERGER

Page Number : 3

Instrument : INSTRUMEN

Vial Number :

Sample Name : SG-11R

Injection Number :

Run Time Bar Code:

Sequence Line :

Acquired on : 18 Aug 94 12:31 PM

Instrument Method: SG-1.MTH

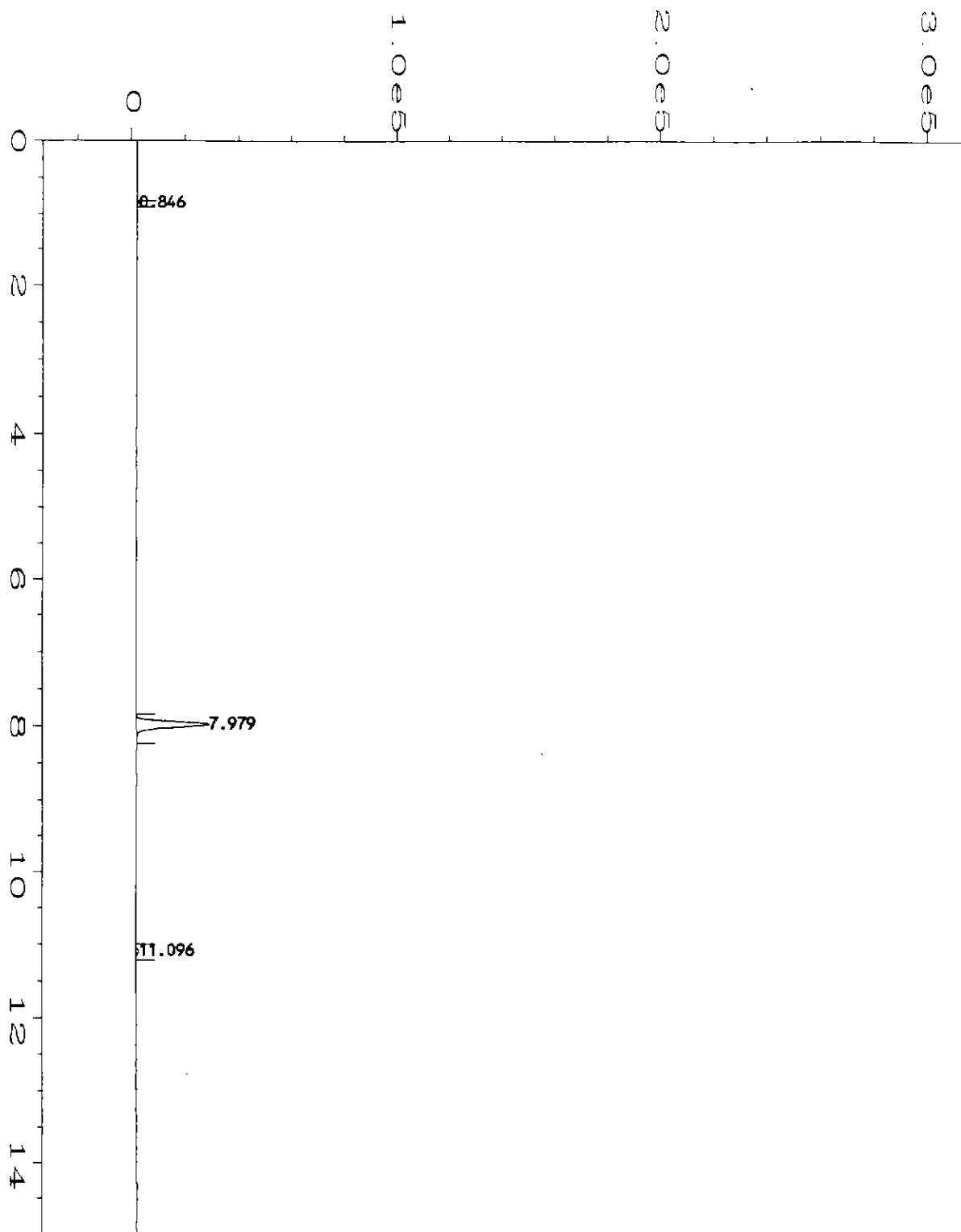
Report Created on: 18 Aug 94 12:46 PM

Analysis Method : SG-1.MTH

24	10.605	9933	6989	BV	0.021	0.0619
25	11.115	53238	10702	VV	0.075	0.3318
26	12.282	8777	1526	BV	0.072	0.0547
27	14.349	29373	5583	PV	0.070	0.1831
28	14.503	956	508	VB	0.031	0.0060

Total area = 1.60432E+007

=====



Data File Name : C:\HPCHEM\1\DATA\NV-R1053.D  
Operator : JAY BERGER  
Instrument : INSTRUMEN  
Sample Name : SG-11R  
Run Time Bar Code:  
Acquired on : 18 Aug 94 12:31 PM  
Report Created on: 18 Aug 94 12:46 PM  
Sample Info : 20:1 Dilution

Page Number : 1  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\1\DATA\NV-R1053.D  
Operator : JAY BERGER  
Instrument : INSTRUMEN  
Sample Name : SG-11R  
Run Time Bar Code:  
Acquired on : 18 Aug 94 12:31 PM  
Report Created on: 18 Aug 94 12:46 PM

Page Number : 2  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

Sig. 2 in C:\HPCHEM\1\DATA\NV-R1053.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.846	1072	800	BB	0.021	0.7137
2	7.979	144858	27269	BB	0.083	96.4327
3	11.096	4287	1026	BB	0.064	2.8536

Total area = 150216

=====



**AeroVironment Inc.**Data Worksheet  
GC/PID/ELCD

Sample ID: SG-10R

Control #: 818945

Project name: Geosystems  
Sample date: 08/18/94  
Project#: 300677  
File name: NV-1054  
Location: No. Hollywood  
Analysis: 8010/8020  
Analyst: Jay Berger  
Sampled by: NC  
Lab ID: Truck 1  
GC ID: GC2 PID/ELCD  
Sample type: N1  
Calib std: noSample time: 12:49  
Received time: 12:52  
Injection time: 12:57  
Probe depth: 5  
Purge volume: 40  
Sample flow: NA  
Vacuum: NA  
Syringe: 5  
Dilution factor: 4  
Calibration date: 07/22/94  
Injection volume 0.125 mL  
18Th.  
18Th.  
Feet  
CC  
CC/min  
"H2O  
Plastic 1cc

Compound	Standard		Sample		
	RT	Avg. CF	RT	Area	ug/L
Dichlorodifluoromethane	0.59	138477		0	0.00
Vinyl chloride	0.71	271379		0	0.00
Chloroethane	0.87	195402		0	0.00
Trichlorofluoromethane	0.97	290771		0	0.00
1,1,2-Trichloro-trifluoroethane	1.23	334184		0	0.00
1,1-Dichloroethene (1,1-DCE)	1.22	443468	1.27	25192	0.45
Dichloromethane (Methylene chloride)	1.50	533175		0	0.00
trans-1,2-Dichloroethene(t-1,2-DCE)	1.67	486172		0	0.00
1,1-Dichloroethane (1,1-DCA)	1.96	499909		0	0.00
cis-1,2-Dichloroethene (c-1,2-DCE)	2.46	501846		0	0.00
Chloroform	2.81	644803		0	0.00
1,1,1-Trichloroethane (1,1,1-TCA)	2.97	559745	3.01	1592299	22.76
Carbon tetrachloride	3.16	660954		0	0.00
Benzene	3.41	13196		0	0.00
1,2-Dichloroethane (1,2-DCA)	3.48	536556		0	0.00
Trichloroethene (TCE)	4.52	581271	4.56	620191	8.54
Toluene	7.02	12282		0	0.00
1,1,2-Trichloroethane (1,1,2-TCA)	7.82	538285		0	0.00
Tetrachloroethene (PCE)	7.94	640559	7.98	7330231	91.55
1,1,1,2-Tetrachloroethane	9.49	607279		0	0.00
Ethylbenzene	9.53	10974		0	0.00
m&p-Xylene	9.73	12790		0	0.00
o-Xylene	10.30	10909		0	0.00
1,1,2,2-Tetrachloroethane	11.41	602475		0	0.00

Total peaks of PID: 2  
Total peaks of ELCD: 4  
Unidentified peaks: 0

## Notes:

- 1-"Standard RT" is the retention time for the standard.
- 2-"Standard AVE. CF" is the average calibration factor for this instrument.
- 3-"Sample area" is the area under the peak.
- 4-"Sample ug/L" is the concentration of the analyte in the sample



**AeroVironment Inc.****Analysis Results**

GC/PID/ELCD

Sample ID: SG-10R

Control #: 818945

Sample date: 08/18/94

Project#: 300677

Location: No. Hollywood

Analysis: 8010/8020

Sample type: N1

Sampled by: NC

Sample time: 12:49

Probe depth: 5

Dilution factor: 4

Injection volume: 0.13

Feet

mL

Compound	MDL ug/L	Sample ug/L
Dichlorodifluoromethane	0.42	<1.0
Vinyl chloride	0.16	<1.0
Chloroethane	0.10	<1.0
Trichlorofluoromethane	0.21	<1.0
1,1,2-Trichloro-trifluoroethane	1.00	<1.0
1,1-Dichloroethene (1,1-DCE)	0.18	0.45
Dichloromethane (Methylene chloride)	0.15	<1.0
trans-1,2-Dichloroethene (t-1,2-DCE)	0.18	<1.0
1,1-Dichloroethane (1,1-DCA)	0.17	<1.0
cis-1,2-Dichloroethene (c-1,2-DCE)	0.16	<1.0
Chloroform	0.22	<1.0
1,1,1-Trichloroethane (1,1,1-TCA)	0.19	22.76
Carbon tetrachloride	0.53	<1.0
Benzene	0.87	<1.0
1,2-Dichloroethane (1,2-DCA)	0.26	<1.0
Trichloroethene (TCE)	0.16	8.54
Toluene	0.18	<1.0
1,1,2-Trichloroethane (1,1,2-TCA)	0.17	<1.0
Tetrachloroethene (PCE)	0.21	91.55
1,1,1,2-Tetrachloroethane	0.31	<1.0
Ethylbenzene	0.23	<1.0
m&p-Xylene	0.27	<1.0
o-Xylene	0.41	<1.0
1,1,2,2-Tetrachloroethane	0.22	<1.0

**Notes:**

1-"MDL ug/L" is the method limit.

2-"Sample ug/L" is the concentration of the analyte in the sample

Data File Name : C:\HPCHEM\1\DATA\NV-F1054.D  
Operator : JAY BERGER  
Instrument : INSTRUMEN  
Sample Name : SG-10R  
Run Time Bar Code:  
Acquired on : 18 Aug 94 12:57 PM  
Report Created on: 18 Aug 94 01:12 PM

Page Number : 2  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

Sig. 1 in C:\HPCHEM\1\DATA\NV-F1054.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.510	37581	14425	BV	0.036	0.3304
2	0.665	12398	5318	PV	0.035	0.1090
3	0.792	6016	2007	VV	0.045	0.0529
4	1.054	4115	500	PV	0.101	0.0362
5	1.265	25192	3553	VV	0.097	0.2215
6	1.525	9333	1548	VV	0.084	0.0821
7	1.647	933	381	VV	0.041	0.0082
8	1.989	2775	645	PV	0.057	0.0244
9	2.720	1422903	232259	PV	0.092	12.5099
10	3.005	1592299	192497	VV	0.122	13.9992
11	3.670	2012	941	VV	0.043	0.0177
12	4.564	620191	70710	VV	0.131	5.4526
13	7.980	7330231	1176539	BV	0.095	64.4461
14	8.941	17744	3444	VV	0.066	0.1560
15	9.018	7703	2919	VV	0.044	0.0677
16	9.067	32821	2911	VV	0.188	0.2886
17	9.521	20667	1957	VV	0.138	0.1817
18	11.112	134333	24073	PV	0.083	1.1810
19	11.634	14990	7185	PV	0.030	0.1318
20	11.898	1265	523	VB	0.049	0.0111
21	12.286	24735	4293	PB	0.088	0.2175
22	14.345	53966	9452	VV	0.085	0.4745

Data File Name : C:\HPCHEM\1\DATA\NV-F1054.D

Operator : JAY BERGER

Instrument : INSTRUMEN

Sample Name : SG-10R

Run Time Bar Code:

Acquired on : 18 Aug 94 12:57 PM

Report Created on: 18 Aug 94 01:12 PM

Page Number : 3

Vial Number :

Injection Number :

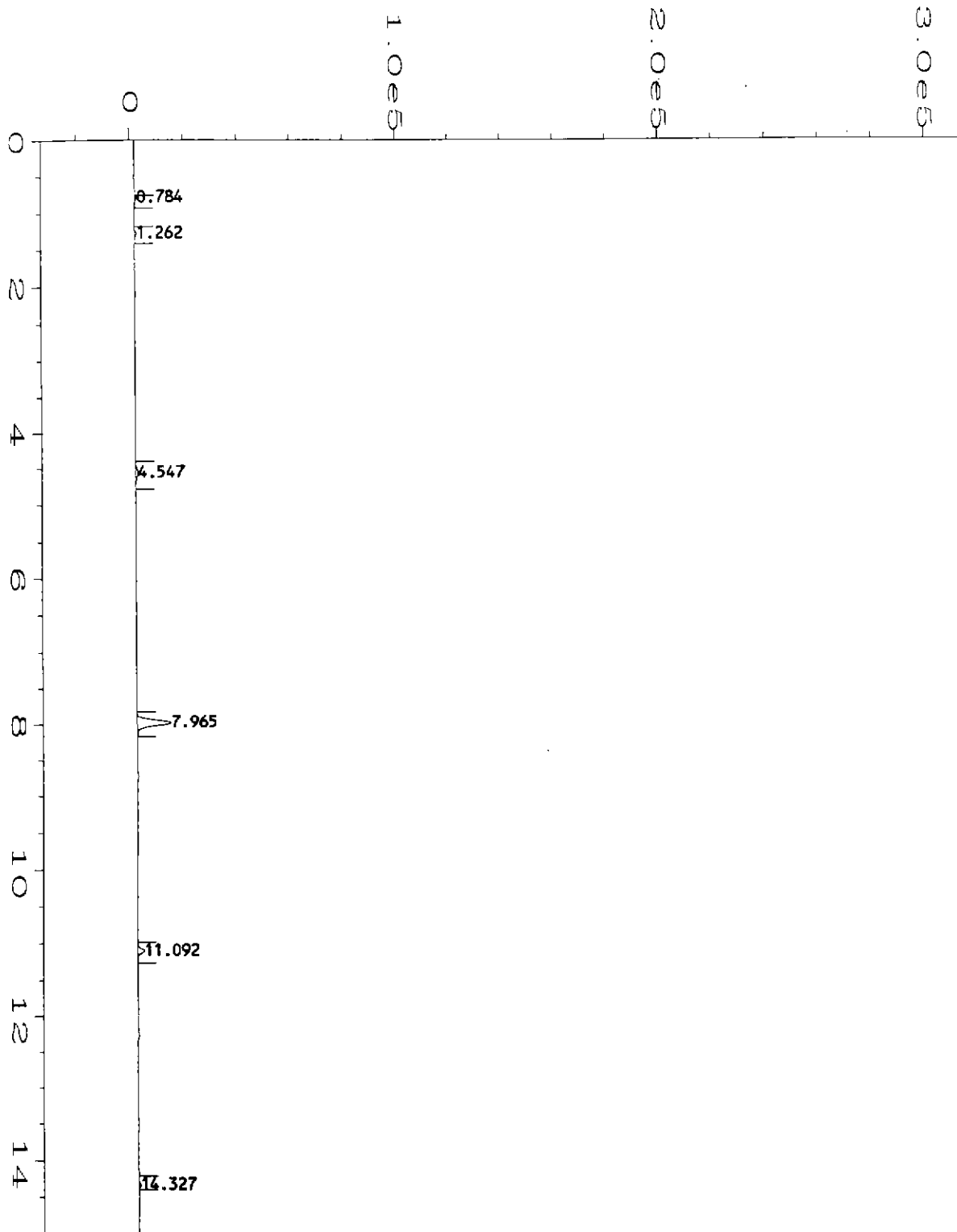
Sequence Line :

Instrument Method: SG-1.MTH

Analysis Method : SG-1.MTH

Total area = 1.13742E+007

=====



Data File Name : C:\HPCHEM\1\DATA\NV-R1054.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : SG-10R  
 Run Time Bar Code:  
 Acquired on : 18 Aug 94 12:57 PM  
 Report Created on: 18 Aug 94 01:13 PM  
 Sample Info : 4:1 Dilution

Page Number : 1  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\1\DATA\NV-R1054.D  
Operator : JAY BERGER  
Instrument : INSTRUMEN  
Sample Name : SG-10R  
Run Time Bar Code:  
Acquired on : 18 Aug 94 12:57 PM  
Report Created on: 18 Aug 94 01:13 PM

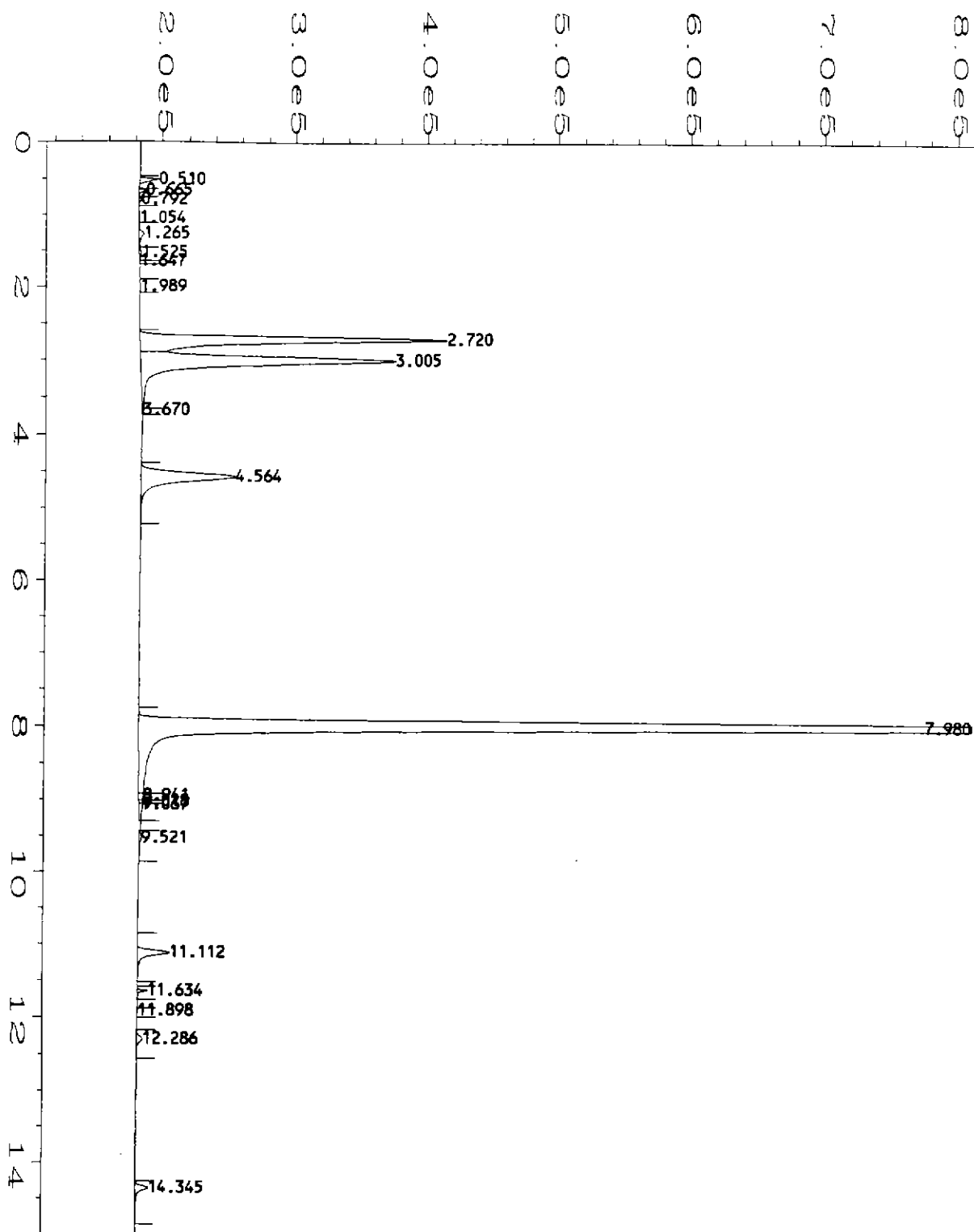
Page Number : 2  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

Sig. 2 in C:\HPCHEM\1\DATA\NV-R1054.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.784	2084	762	BB	0.040	2.1479
2	1.262	2862	740	BB	0.058	2.9497
3	4.547	8350	1054	BB	0.106	8.6048
4	7.965	71046	12669	BB	0.087	73.2139
5	11.092	10806	2468	BB	0.068	11.1357
6	14.327	1890	562	BV	0.055	1.9479

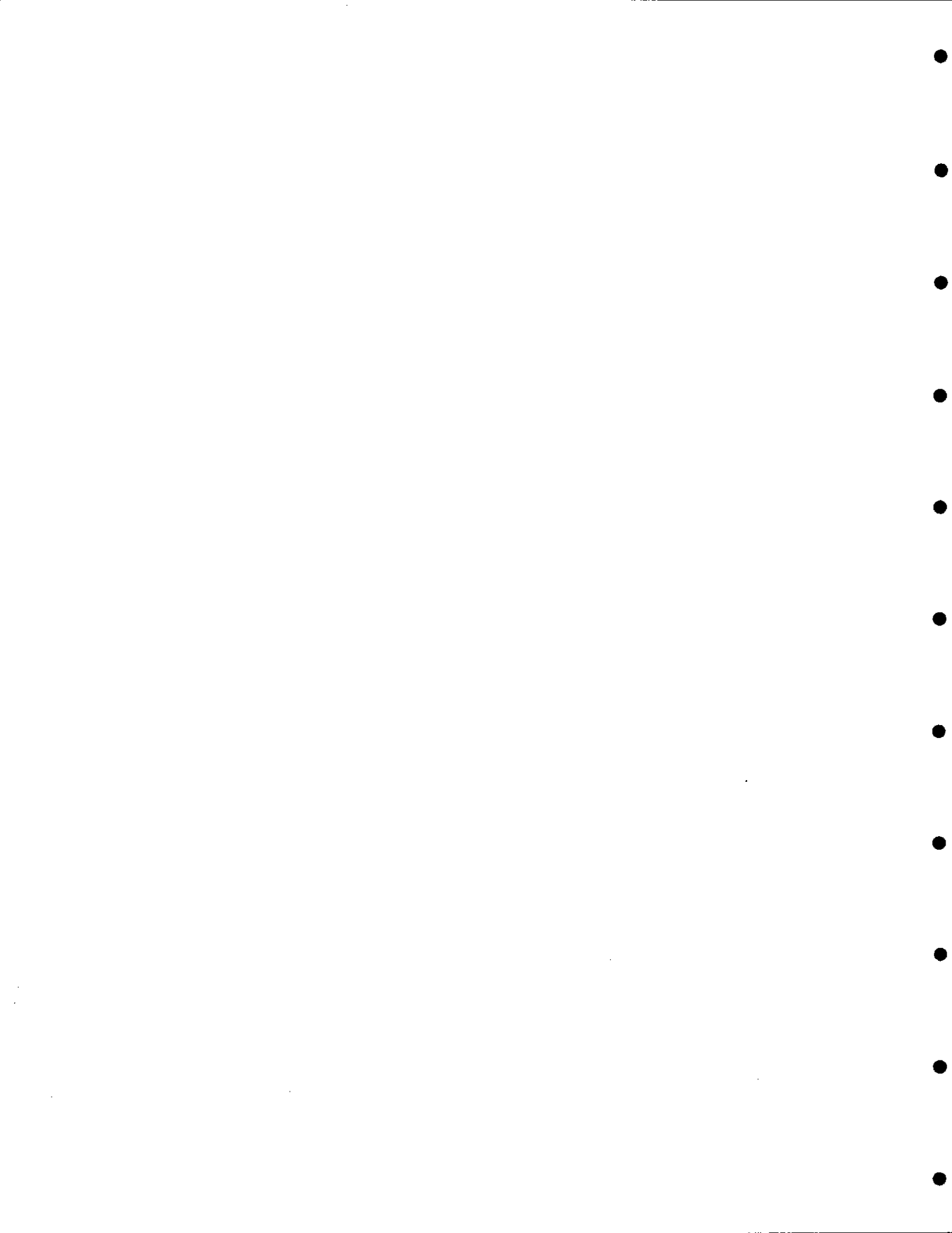
Total area = 97039

=====



Data File Name : C:\HPCHEM\1\DATA\NV-F1054.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : SG-10R  
 Run Time Bar Code:  
 Acquired on : 18 Aug 94 12:57 PM  
 Report Created on: 18 Aug 94 01:12 PM  
 Sample Info : 4:1 Dilution

Page Number : 1  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH



**AeroVironment Inc.**Data Worksheet  
GC/PID/ELCDSample ID: SG-6R  
Control #: 818946

Project name: Geosystems

Sample date: 08/18/94

Project#: 300677

File name: NV-1055

Location: No. Hollywood

Analysis: 8010/8020

Analyst: Jay Berger

Sampled by: NC

Lab ID: Truck 1

GC ID: GC2 PID/ELCD

Sample type: N1

Calib std: no

Sample time: 13:16

Received time: 13:20

Injection time: 13:24

Probe depth: 5

Purge volume: 40

Sample flow: NA

Vacuum: NA

Syringe: 6

Dilution factor: 5

Calibration date: 07/22/94

Injection volume 0.1

18Th.

18Th.

Feet

CC

CC/min

"H2O

Plastic 1cc

Compound	Standard	Avg. CF	Sample		
	RT		RT	Area	ug/L
Dichlorodifluoromethane	0.59	138477		0	0.00
Vinyl chloride	0.71	271379		0	0.00
Chloroethane	0.87	195402		0	0.00
Trichlorofluoromethane	0.97	290771		0	0.00
1,1,2-Trichloro-trifluoroethane	1.23	334184		0	0.00
1,1-Dichloroethene (1,1-DCE)	1.22	443468	1.27	108259	2.44
Dichloromethane (Methylene chloride)	1.50	533175		0	0.00
trans-1,2-Dichloroethene (t-1,2-DCE)	1.67	486172		0	0.00
1,1-Dichloroethane (1,1-DCA)	1.96	499909		0	0.00
cis-1,2-Dichloroethene (c-1,2-DCE)	2.46	501846		0	0.00
Chloroform	2.81	644803		0	0.00
1,1,1-Trichloroethane (1,1,1-TCA)	2.97	559745	3.01	2707448	48.37
Carbon tetrachloride	3.16	660954		0	0.00
Benzene	3.41	13196		0	0.00
1,2-Dichloroethane (1,2-DCA)	3.48	536556		0	0.00
Trichloroethene (TCE)	4.52	581271	4.57	806941	13.88
Toluene	7.02	12282		0	0.00
1,1,2-Trichloroethane (1,1,2-TCA)	7.82	538285		0	0.00
Tetrachloroethene (PCE)	7.94	640559	7.98	8131533	126.94
1,1,1,2-Tetrachloroethane	9.49	607279		0	0.00
Ethylbenzene	9.53	10974		0	0.00
m&p-Xylene	9.73	12790		0	0.00
o-Xylene	10.30	10909		0	0.00
1,1,2,2-Tetrachloroethane	11.41	602475		0	0.00

Total peaks of PID: 2  
Total peaks of ELCD: 4  
Unidentified peaks: 0

## Notes:

1-"Standard RT" is the retention time for the standard.

2-"Standard AVE. CF" is the average calibration factor for this instrument.

3-"Sample area" is the area under the peak.

4-"Sample ug/L" is the concentration of the analyte in the sample



**AeroVironment Inc.****Analysis Results**

GC/PID/ELCD

Sample ID: SG-6R

Control #: 818946

Sample date: 08/18/94  
Project#: 300677  
Location: No. Hollywood  
Analysis: 8010/8020  
Sample type: N1

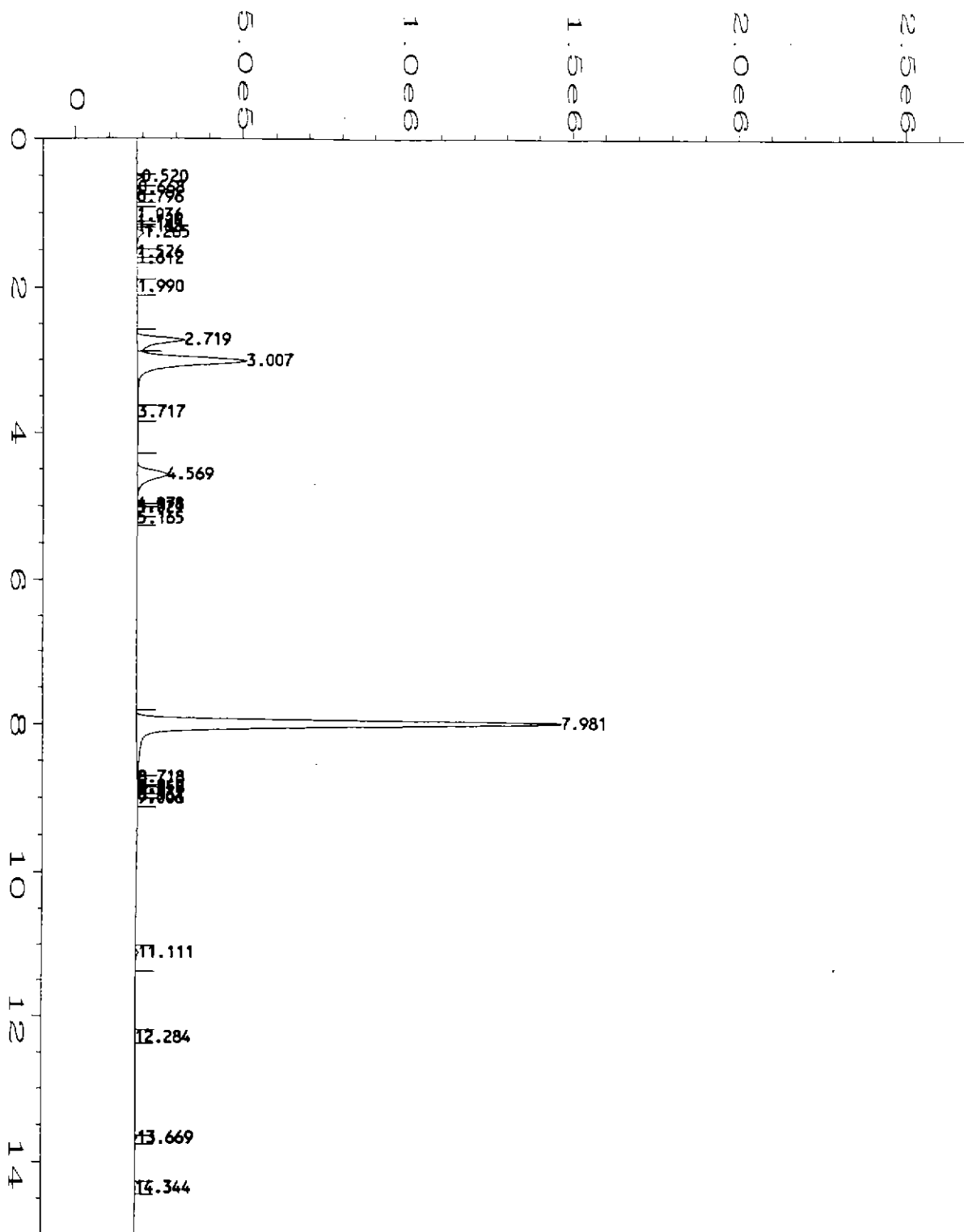
Sampled by: NC  
Sample time: 13:16  
Probe depth: 5 Feet  
Dilution factor: 5  
Injection volume: 0.10 mL

Compound	MDL ug/L	Sample ug/L
Dichlorodifluoromethane	0.42	<1.0
Vinyl chloride	0.16	<1.0
Chloroethane	0.10	<1.0
Trichlorofluoromethane	0.21	<1.0
1,1,2-Trichloro-trifluoroethane	1.00	<1.0
1,1-Dichloroethene (1,1-DCE)	0.18	2.44
Dichloromethane (Methylene chloride)	0.15	<1.0
trans-1,2-Dichloroethene(t-1,2-DCE)	0.18	<1.0
1,1-Dichloroethane (1,1-DCA)	0.17	<1.0
cis-1,2-Dichloroethene (c-1,2-DCE)	0.16	<1.0
Chloroform	0.22	<1.0
1,1,1-Trichloroethane (1,1,1-TCA)	0.19	48.37
Carbon tetrachloride	0.53	<1.0
Benzene	0.87	<1.0
1,2-Dichloroethane (1,2-DCA)	0.26	<1.0
Trichloroethene (TCE)	0.16	13.88
Toluene	0.18	<1.0
1,1,2-Trichloroethane (1,1,2-TCA)	0.17	<1.0
Tetrachloroethene (PCE)	0.21	126.94
1,1,1,2-Tetrachloroethane	0.31	<1.0
Ethylbenzene	0.23	<1.0
m&p-Xylene	0.27	<1.0
o-Xylene	0.41	<1.0
1,1,2,2-Tetrachloroethane	0.22	<1.0

**Notes:**

1-"MDL ug/L" is the method limit.

2-"Sample ug/L" is the concentration of the analyte in the sample



Data File Name : C:\HPCHEM\1\DATA\NV-F1055.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : SG-6R  
 Run Time Bar Code:  
 Acquired on : 18 Aug 94 01:24 PM  
 Report Created on: 18 Aug 94 01:39 PM  
 Sample Info : 5:1 Dilution

Page Number : 1  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\1\DATA\NV-F1055.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : SG-6R  
 Run Time Bar Code:  
 Acquired on : 18 Aug 94 01:24 PM  
 Report Created on: 18 Aug 94 01:39 PM

Page Number : 2  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Sig. 1 in C:\HPCHEM\1\DATA\NV-F1055.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.520	42466	15151	VV	0.045	0.3313
2	0.668	9283	4314	PV	0.033	0.0724
3	0.796	3770	1509	PV	0.037	0.0294
4	1.036	3924	683	PV	0.075	0.0306
5	1.124	760	382	VV	0.033	0.0059
6	1.183	517	384	VV	0.022	0.0040
7	1.265	108259	21551	VV	0.073	0.8445
8	1.526	5062	1127	VV	0.057	0.0395
9	1.612	546	246	VV	0.031	0.0043
10	1.990	7685	1453	BV	0.068	0.0599
11	2.719	872823	143631	PV	0.090	6.8084
12	3.007	2707448	328763	VV	0.119	21.1194
13	3.717	8073	1202	VV	0.082	0.0630
14	4.569	806941	90704	BV	0.124	6.2945
15	4.978	1146	521	VV	0.037	0.0089
16	5.021	1262	372	VB	0.057	0.0098
17	5.165	4656	2840	BB	0.024	0.0363
18	7.981	8131533	1284340	PV	0.096	63.4298
19	8.718	19812	3069	VV	0.108	0.1545
20	8.840	3967	2079	VV	0.032	0.0309
21	8.858	8604	2045	VV	0.070	0.0671
22	8.961	3997	1259	VV	0.044	0.0312
23	9.006	3576	991	VB	0.060	0.0279

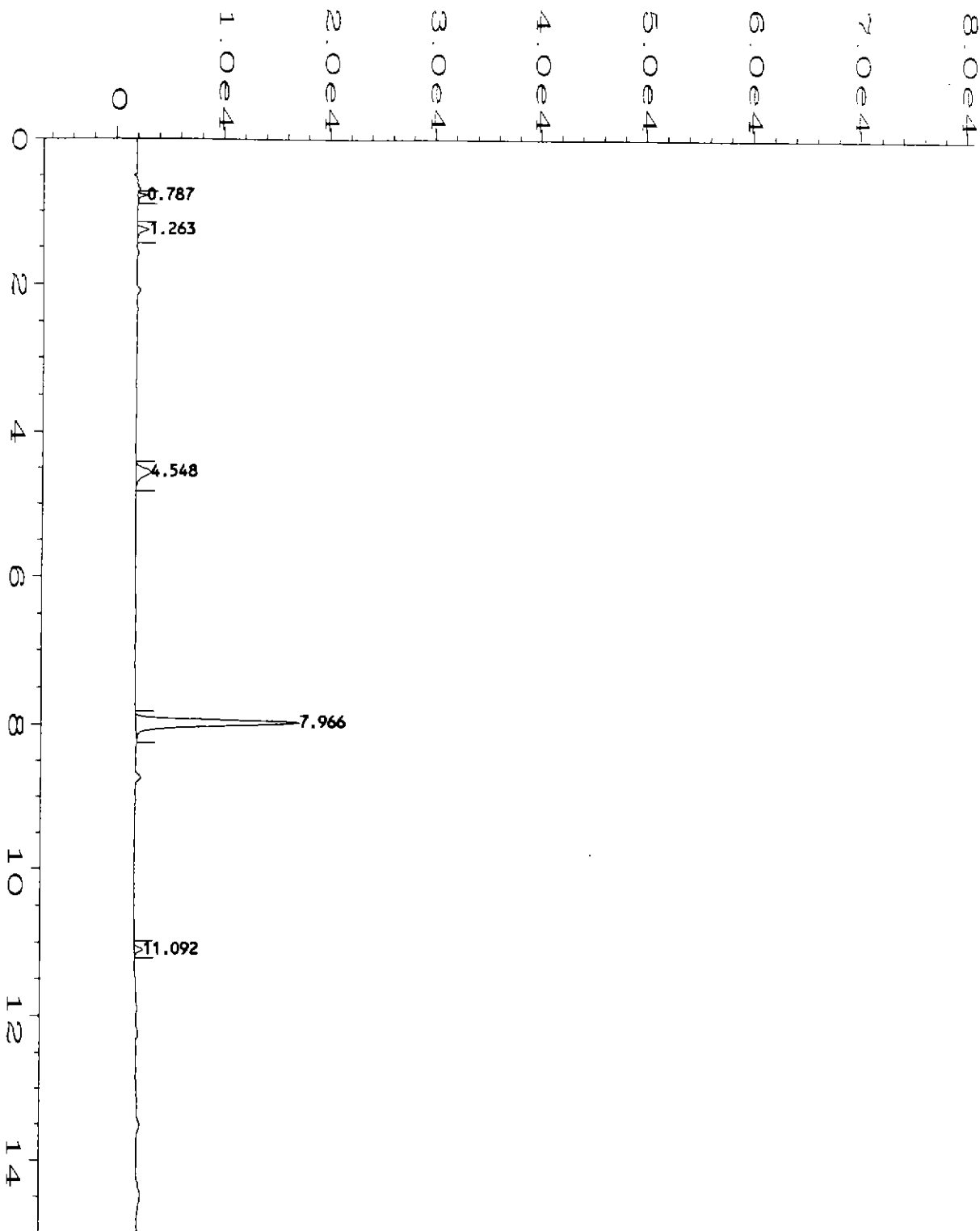
Data File Name : C:\HPCHEM\1\DATA\NV-F1055.D  
Operator : JAY BERGER  
Instrument : INSTRUMEN  
Sample Name : SG-6R  
Run Time Bar Code:  
Acquired on : 18 Aug 94 01:24 PM  
Report Created on: 18 Aug 94 01:39 PM

Page Number : 3  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

24	11.111	41229	7250	PV	0.081	0.3216
25	12.284	3907	820	PV	0.061	0.0305
26	13.669	10908	8123	VV	0.033	0.0851
27	14.344	7575	1766	BV	0.062	0.0591

Total area = 1.28197E+007

=====



Data File Name : C:\HPCHEM\1\DATA\NV-R1055.D  
Operator : JAY BERGER  
Instrument : INSTRUMEN  
Sample Name : SG-6R  
Run Time Bar Code:  
Acquired on : 18 Aug 94 01:24 PM  
Report Created on: 18 Aug 94 01:39 PM  
Sample Info : 5:1 Dilution

Page Number : 1  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\1\DATA\NV-R1055.D

Operator : JAY BERGER

Instrument : INSTRUMEN

Sample Name : SG-6R

Run Time Bar Code:

Acquired on : 18 Aug 94 01:24 PM

Report Created on: 18 Aug 94 01:39 PM

Page Number : 2

Vial Number :

Injection Number :

Sequence Line :

Instrument Method: SG-1.MTH

Analysis Method : SG-1.MTH

Sig. 2 in C:\HPCHEM\1\DATA\NV-R1055.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.787	2582	845	VB	0.044	2.3540
2	1.263	4461	1087	BB	0.061	4.0675
3	4.548	11762	1417	BB	0.122	10.7251
4	7.966	87581	15394	BB	0.088	79.8575
5	11.092	3286	771	BB	0.066	2.9959

Total area = 109671

=====



**AeroVironment Inc.**Data Worksheet  
GC/PID/ELCD

Sample ID: SG-12R

Control #: 818948

Project name: Geosystems

Sample date: 08/18/94

Project#: 300677

File name: NV-1057

Location: No. Hollywood

Analysis: 8010/8020

Analyst: Jay Berger

Sampled by: NC

Lab ID: Truck 1

GC ID: GC2 PID/ELCD

Sample type: N1

Calib std: no

Sample time: 13:41

Received time: 13:44

Injection time: 14:11

Probe depth: 5

Purge volume: 40

Sample flow: NA

Vacuum: NA

Syringe: 7

Dilution factor: 20

Calibration date: 07/22/94

Injection volum 0.025 mL

18Th.

18Th.

Feet

CC

CC/min

H<sub>2</sub>O

Plastic 1cc

Compound	Standard		Sample		
	RT	Avg. CF	RT	Area	ug/L
Dichlorodifluoromethane	0.59	138477		0	0.00
Vinyl chloride	0.71	271379		0	0.00
Chloroethane	0.87	195402		0	0.00
Trichlorofluoromethane	0.97	290771		0	0.00
1,1,2-Trichloro-trifluoroethane	1.23	334184		0	0.00
1,1-Dichloroethene (1,1-DCE)	1.22	443468	1.28	19645	1.77
Dichloromethane (Methylene chloride)	1.50	533175		0	0.00
trans-1,2-Dichloroethene (t-1,2-DCE)	1.67	486172		0	0.00
1,1-Dichloroethane (1,1-DCA)	1.96	499909		0	0.00
cis-1,2-Dichloroethene (c-1,2-DCE)	2.46	501846		0	0.00
Chloroform	2.81	644803		0	0.00
1,1,1-Trichloroethane (1,1,1-TCA)	2.97	559745	3.02	961916	68.74
Carbon tetrachloride	3.16	660954		0	0.00
Benzene	3.41	13196		0	0.00
1,2-Dichloroethane (1,2-DCA)	3.48	536556		0	0.00
Trichloroethene (TCE)	4.52	581271	4.58	181552	12.49
Toluene	7.02	12282		0	0.00
1,1,2-Trichloroethane (1,1,2-TCA)	7.82	538285		0	0.00
Tetrachloroethene (PCE)	7.94	640559	7.99	3686711	230.22
1,1,1,2-Tetrachloroethane	9.49	607279		0	0.00
Ethylbenzene	9.53	10974		0	0.00
m&p-Xylene	9.73	12790		0	0.00
o-Xylene	10.30	10909		0	0.00
1,1,2,2-Tetrachloroethane	11.41	602475		0	0.00

Total peaks of PID: 2  
Total peaks of ELCD: 4  
Unidentified peaks: 0

## Notes:

1-"Standard RT" is the retention time for the standard.

2-"Standard AVE. CF" is the average calibration factor for this instrument.

3-"Sample area" is the area under the peak.

4-"Sample ug/L" is the concentration of the analyte in the sample



**AeroVironment Inc.****Analysis Results**

GC/PID/ELCD

Sample ID: SG-12R

Control #: 818948

Sample date: 08/18/94

Project#: 300677

Location: No. Hollywood

Analysis: 8010/8020

Sample type: N1

Sampled by: NC

Sample time: 13:41

Probe depth: 5

Dilution factor: 20

Injection volume: 0.03

Feet

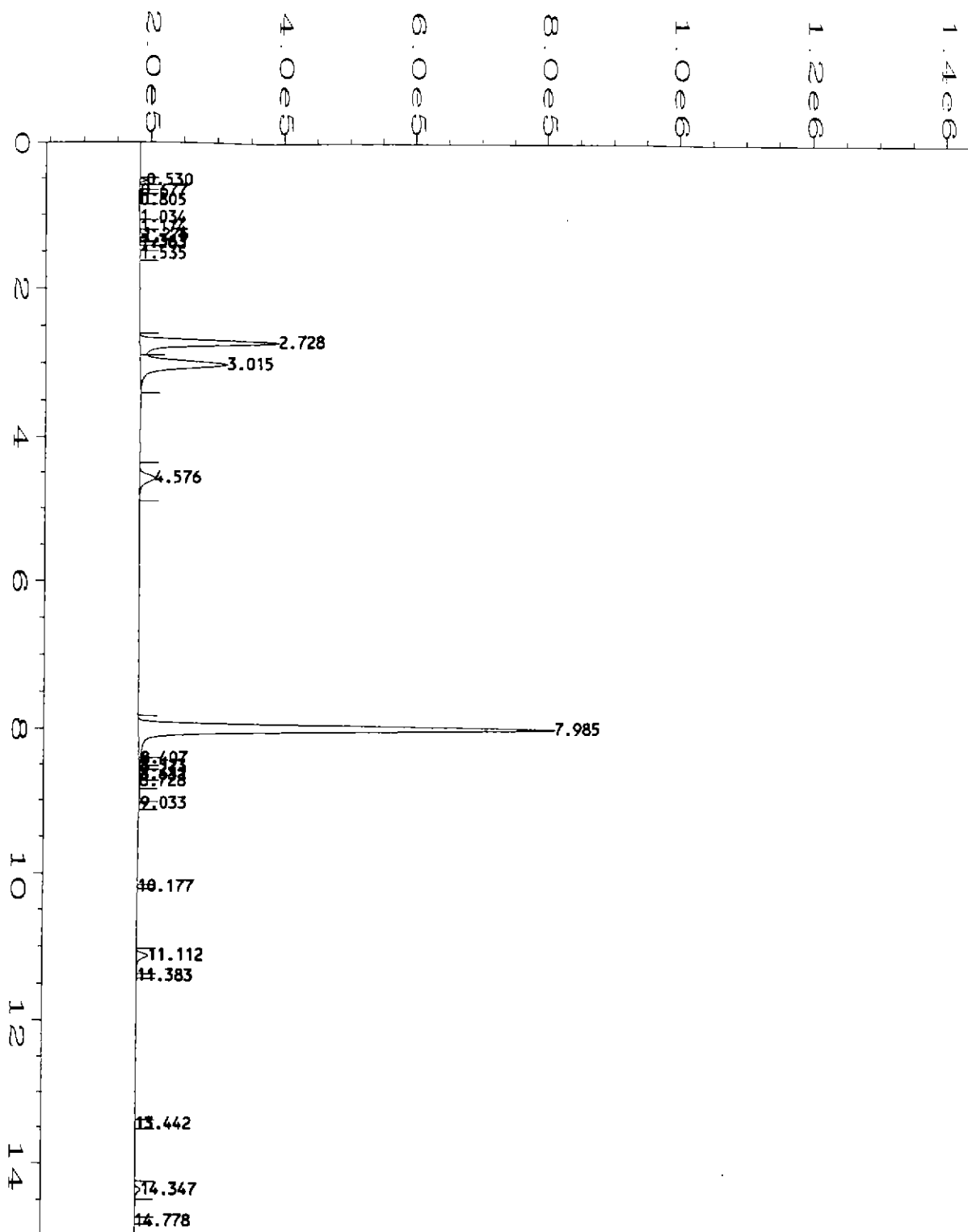
mL

Compound	MDL ug/L	Sample ug/L
Dichlorodifluoromethane	0.42	<1.0
Vinyl chloride	0.16	<1.0
Chloroethane	0.10	<1.0
Trichlorofluoromethane	0.21	<1.0
1,1,2-Trichloro-trifluoroethane	1.00	<1.0
1,1-Dichloroethene (1,1-DCE)	0.18	1.77
Dichloromethane (Methylene chloride)	0.15	<1.0
trans-1,2-Dichloroethene (t-1,2-DCE)	0.18	<1.0
1,1-Dichloroethane (1,1-DCA)	0.17	<1.0
cis-1,2-Dichloroethene (c-1,2-DCE)	0.16	<1.0
Chloroform	0.22	<1.0
1,1,1-Trichloroethane (1,1,1-TCA)	0.19	68.74
Carbon tetrachloride	0.53	<1.0
Benzene	0.87	<1.0
1,2-Dichloroethane (1,2-DCA)	0.26	<1.0
Trichloroethene (TCE)	0.16	12.49
Toluene	0.18	<1.0
1,1,2-Trichloroethane (1,1,2-TCA)	0.17	<1.0
Tetrachloroethene (PCE)	0.21	230.22
1,1,1,2-Tetrachloroethane	0.31	<1.0
Ethylbenzene	0.23	<1.0
m&p-Xylene	0.27	<1.0
o-Xylene	0.41	<1.0
1,1,2,2-Tetrachloroethane	0.22	<1.0

**Notes:**

1-"MDL ug/L" is the method limit.

2-"Sample ug/L" is the concentration of the analyte in the sample



Data File Name : C:\HPCHEM\1\DATA\NV-F1057.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : SG-12R  
 Run Time Bar Code:  
 Acquired on : 18 Aug 94 02:11 PM  
 Report Created on: 18 Aug 94 02:26 PM  
 Sample Info : 20:1 Dilution

Page Number : 1  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\1\DATA\NV-F1057.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : SG-12R  
 Run Time Bar Code:  
 Acquired on : 18 Aug 94 02:11 PM  
 Report Created on: 18 Aug 94 02:26 PM

Page Number : 2  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Sig. 1 in C:\HPCHEM\1\DATA\NV-F1057.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.530	23487	10219	VV	0.037	0.3831
2	0.677	3400	2221	VV	0.024	0.0555
3	0.805	4312	1563	PV	0.039	0.0703
4	1.034	6159	821	PV	0.092	0.1005
5	1.174	4428	632	VV	0.092	0.0722
6	1.275	19645	4804	VV	0.061	0.3204
7	1.363	945	805	VV	0.020	0.0154
8	1.383	1652	788	VV	0.035	0.0269
9	1.535	4322	1100	VV	0.057	0.0705
10	2.728	1066835	209134	PV	0.078	17.4017
11	3.015	961916	130693	VV	0.110	15.6903
12	4.576	181552	22756	PV	0.122	2.9614
13	7.985	3686711	631483	PV	0.091	60.1358
14	8.407	13693	2645	VV	0.086	0.2233
15	8.523	4390	1448	VV	0.040	0.0716
16	8.632	11133	1616	VV	0.086	0.1816
17	8.728	3019	813	VV	0.051	0.0492
18	9.033	3065	2181	PV	0.021	0.0500
19	10.177	559	375	PV	0.024	0.0091
20	11.112	84808	16478	PV	0.079	1.3833
21	11.383	679	436	VV	0.023	0.0111
22	13.442	1515	597	PV	0.034	0.0247
23	14.347	41462	8249	PV	0.072	0.6763

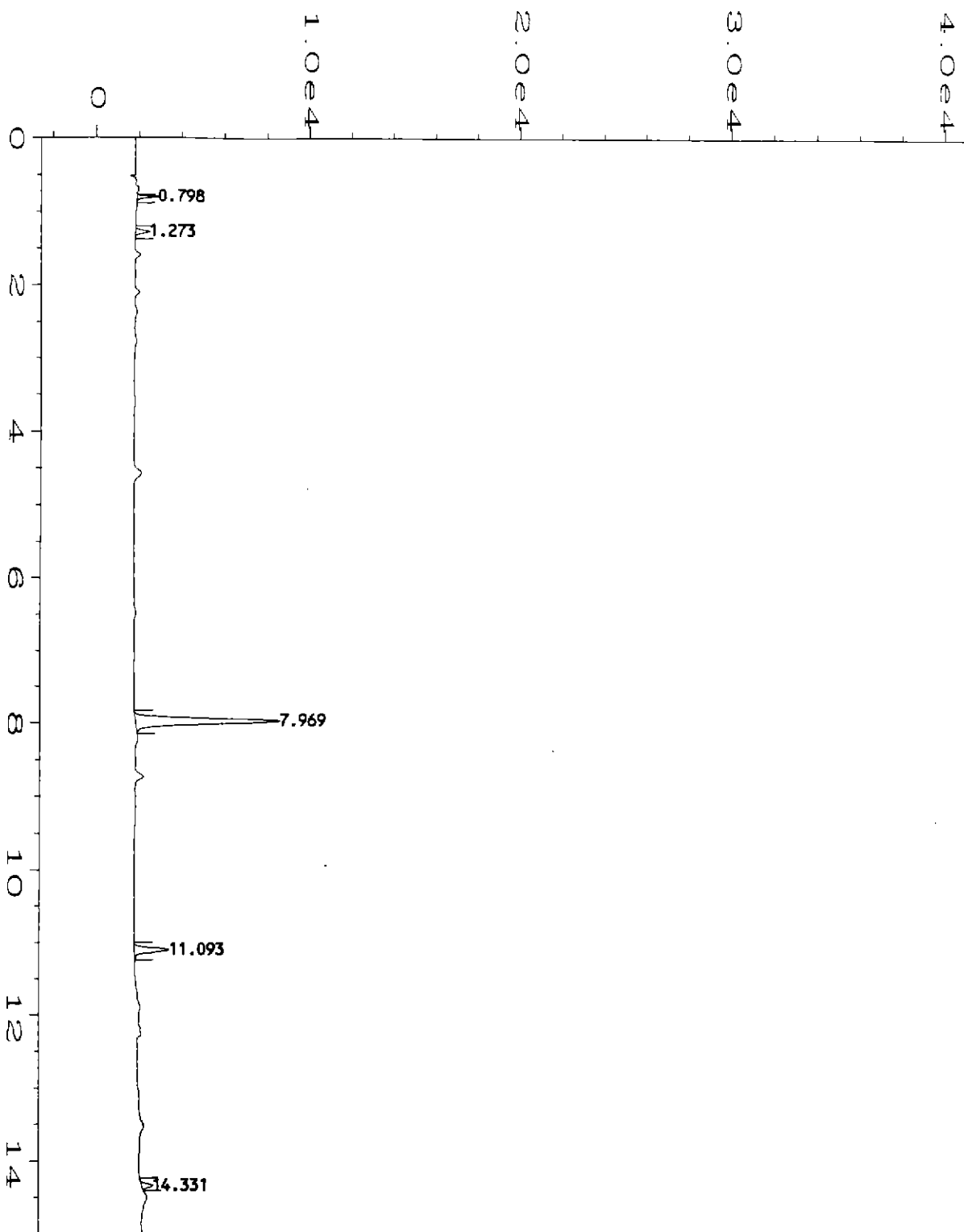
Data File Name : C:\HPCHEM\1\DATA\NV-F1057.D  
Operator : JAY BERGER  
Instrument : INSTRUMEN  
Sample Name : SG-12R  
Run Time Bar Code:  
Acquired on : 18 Aug 94 02:11 PM  
Report Created on: 18 Aug 94 02:26 PM

Page Number : 3  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

24	14.778	960	521	BV	0.026	0.0157
----	--------	-----	-----	----	-------	--------

Total area = 6130647

=====



Data File Name : C:\HPCHEM\1\DATA\NV-R1057.D  
Operator : JAY BERGER  
Instrument : INSTRUMEN  
Sample Name : SG-12R  
Run Time Bar Code:  
Acquired on : 18 Aug 94 02:11 PM  
Report Created on: 18 Aug 94 02:26 PM  
Sample Info : 20:1 Dilution

Page Number : 1  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\1\DATA\NV-R1057.D  
Operator : JAY BERGER  
Instrument : INSTRUMEN  
Sample Name : SG-12R  
Run Time Bar Code:  
Acquired on : 18 Aug 94 02:11 PM  
Report Created on: 18 Aug 94 02:26 PM

Page Number : 2  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

Sig. 2 in C:\HPCHEM\1\DATA\NV-R1057.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.798	1860	1008	BB	0.029	3.8720
2	1.273	1932	647	BB	0.047	4.0216
3	7.969	35888	6778	BB	0.079	74.7007
4	11.093	6646	1609	BB	0.064	13.8328
5	14.331	1717	506	BV	0.055	3.5730

Total area = 48043

=====



**AeroVironment Inc.**Data Worksheet  
GC/PID/ELCD

Sample ID: SG-14R

Control #: 818949

Project name: Geosystems

Sample date: 08/18/94

Project#: 300677

File name: NV-1058

Location: No. Hollywood

Analysis: 8010/8020

Analyst: Jay Berger

Sampled by: NC

Lab ID: Truck 1

GC ID: GC2 PID/ELCD

Sample type: N1

Calib std: no

Sample time: 14:27

Received time: 14:31

Injection time: 14:36

Probe depth: 5

Purge volume: 40

Sample flow: NA

Vacuum: NA

Syringe: 8

Dilution factor: 10

Calibration date: 07/22/94

Injection volum 0.05 mL

18Th.

18Th.

Feet

CC

CC/min

"H2O

Plastic 1cc

Compound	Standard		Sample		
	RT	Avg. CF	RT	Area	ug/L
Dichlorodifluoromethane	0.59	138477		0	0.00
Vinyl chloride	0.71	271379		0	0.00
Chloroethane	0.87	195402		0	0.00
Trichlorofluoromethane	0.97	290771		0	0.00
1,1,2-Trichloro-trifluoroethane	1.23	334184		0	0.00
1,1-Dichloroethene (1,1-DCE)	1.22	443468	1.27	15335	0.69
Dichloromethane (Methylene chloride)	1.50	533175		0	0.00
trans-1,2-Dichloroethene(t-1,2-DCE)	1.67	486172		0	0.00
1,1-Dichloroethane (1,1-DCA)	1.96	499909		0	0.00
cis-1,2-Dichloroethene (c-1,2-DCE)	2.46	501846		0	0.00
Chloroform	2.81	644803		0	0.00
1,1,1-Trichloroethane (1,1,1-TCA)	2.97	559745	3.02	1077657	38.51
Carbon tetrachloride	3.16	660954		0	0.00
Benzene	3.41	13196		0	0.00
1,2-Dichloroethane (1,2-DCA)	3.48	536556		0	0.00
Trichloroethene (TCE)	4.52	581271	4.58	216436	7.45
Toluene	7.02	12282		0	0.00
1,1,2-Trichloroethane (1,1,2-TCA)	7.82	538285		0	0.00
Tetrachloroethene (PCE)	7.94	640559	7.99	11448400	357.45
1,1,1,2-Tetrachloroethane	9.49	607279		0	0.00
Ethylbenzene	9.53	10974		0	0.00
m&p-Xylene	9.73	12790		0	0.00
o-Xylene	10.30	10909		0	0.00
1,1,2,2-Tetrachloroethane	11.41	602475		0	0.00

Total peaks of PID: 2  
Total peaks of ELCD: 4  
Unidentified peaks: 0

## Notes:

1-"Standard RT" is the retention time for the standard.

2-"Standard AVE. CF" is the average calibration factor for this instrument.

3-"Sample area" is the area under the peak.

4-"Sample ug/L" is the concentration of the analyte in the sample



**AeroVironment Inc.****Analysis Results**

GC/PID/ELCD

Sample ID: SG-14R

Control #: 818949

Sample date: 08/18/94

Project#: 300677

Location: No. Hollywood

Analysis: 8010/8020

Sample type: N1

Sampled by: NC

Sample time: 14:27

Probe depth: 5

Dilution factor: 10

Injection volume: 0.05

Feet

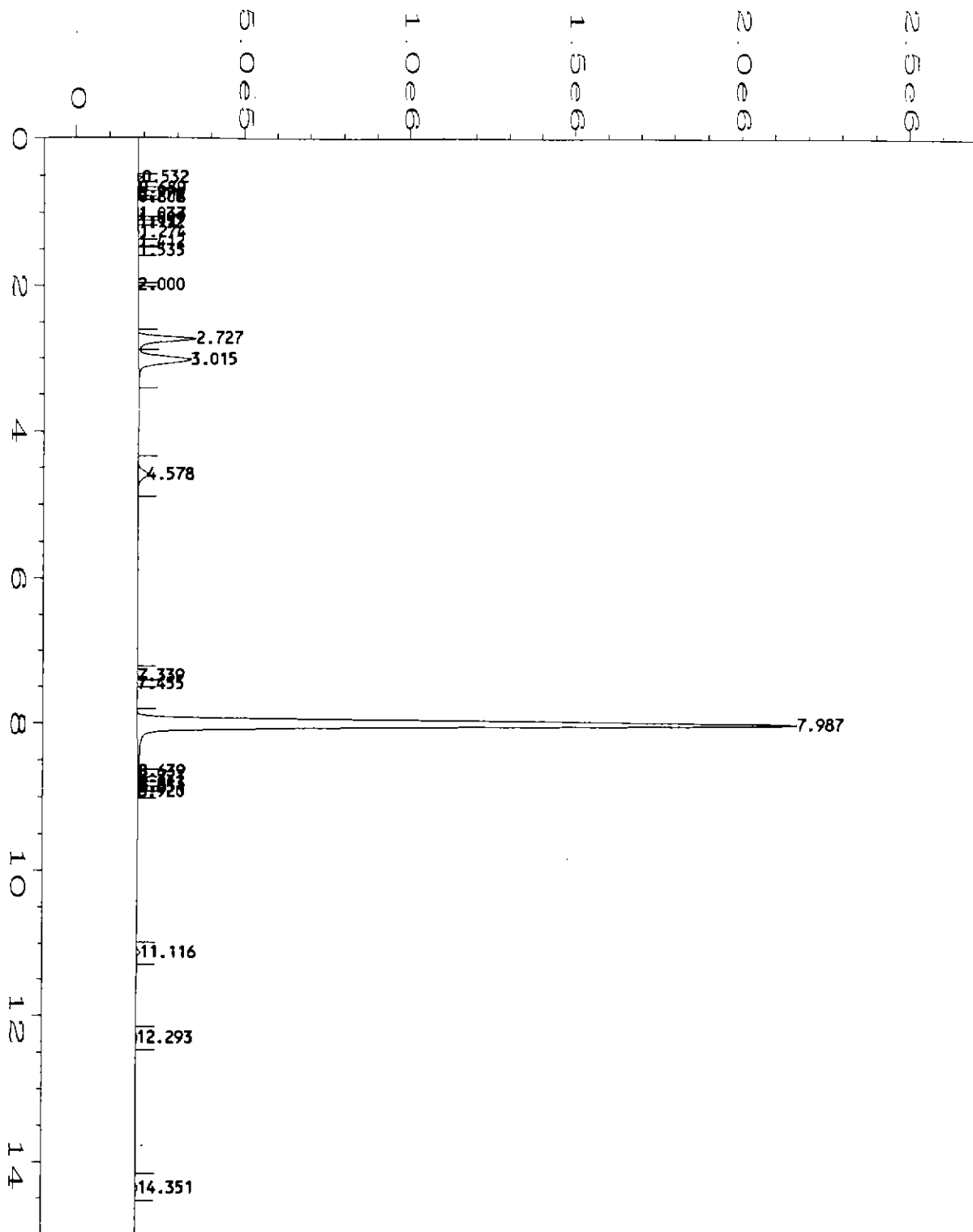
mL

Compound	MDL ug/L	Sample ug/L
Dichlorodifluoromethane	0.42	<1.0
Vinyl chloride	0.16	<1.0
Chloroethane	0.10	<1.0
Trichlorofluoromethane	0.21	<1.0
1,1,2-Trichloro-trifluoroethane	1.00	<1.0
1,1-Dichloroethene (1,1-DCE)	0.18	0.69
Dichloromethane (Methylene chloride)	0.15	<1.0
trans-1,2-Dichloroethene(t-1,2-DCE)	0.18	<1.0
1,1-Dichloroethane (1,1-DCA)	0.17	<1.0
cis-1,2-Dichloroethene (c-1,2-DCE)	0.16	<1.0
Chloroform	0.22	<1.0
1,1,1-Trichloroethane (1,1,1-TCA)	0.19	38.51
Carbon tetrachloride	0.53	<1.0
Benzene	0.87	<1.0
1,2-Dichloroethane (1,2-DCA)	0.26	<1.0
Trichloroethene (TCE)	0.16	7.45
Toluene	0.18	<1.0
1,1,2-Trichloroethane (1,1,2-TCA)	0.17	<1.0
Tetrachloroethene (PCE)	0.21	357.45
1,1,1,2-Tetrachloroethane	0.31	<1.0
Ethylbenzene	0.23	<1.0
m&p-Xylene	0.27	<1.0
o-Xylene	0.41	<1.0
1,1,2,2-Tetrachloroethane	0.22	<1.0

**Notes:**

1-"MDL ug/L" is the method limit.

2-"Sample ug/L" is the concentration of the analyte in the sample



Data File Name : C:\HPCHEM\1\DATA\NV-F1058.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : SG-14R  
 Run Time Bar Code:  
 Acquired on : 18 Aug 94 02:36 PM  
 Report Created on: 18 Aug 94 02:51 PM  
 Sample Info : 10:1 Dilution

Page Number : 1  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\1\DATA\NV-F1058.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : SG-14R  
 Run Time Bar Code:  
 Acquired on : 18 Aug 94 02:36 PM  
 Report Created on: 18 Aug 94 02:51 PM

Page Number : 2  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Sig. 1 in C:\HPCHEM\1\DATA\NV-F1058.D

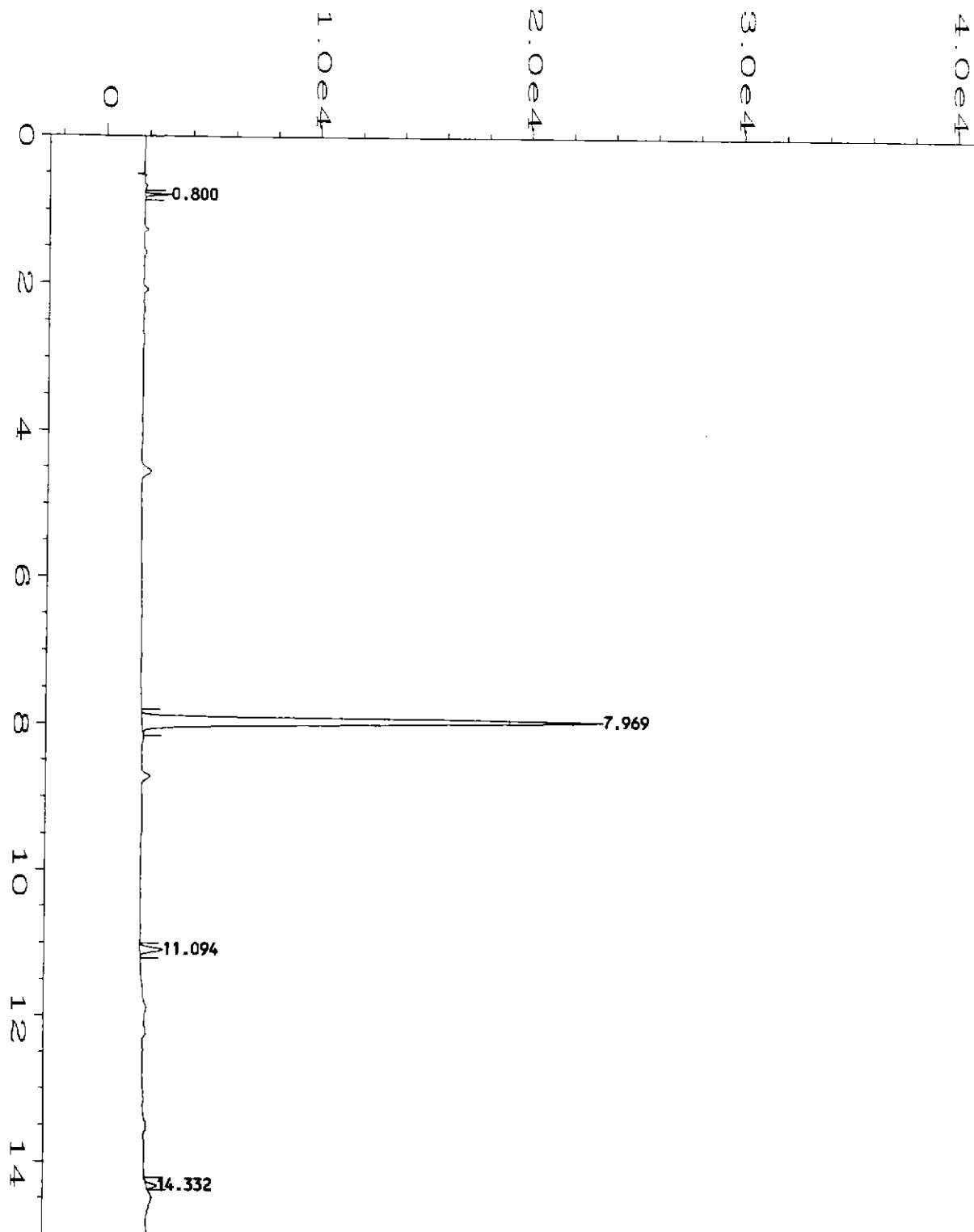
Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.532	25664	11158	VV	0.035	0.1865
2	0.680	4792	3690	VV	0.020	0.0348
3	0.770	2258	744	PV	0.042	0.0164
4	0.808	2448	1460	VV	0.027	0.0178
5	1.037	9372	1021	PV	0.112	0.0681
6	1.099	2279	800	VV	0.041	0.0166
7	1.152	2590	776	VV	0.043	0.0188
8	1.274	15335	3247	VV	0.067	0.1114
9	1.412	1236	301	VB	0.054	0.0090
10	1.535	2801	887	BV	0.044	0.0204
11	2.000	221	125	PV	0.029	0.0016
12	2.727	817371	173659	PV	0.068	5.9393
13	3.015	1077657	157504	VV	0.093	7.8307
14	4.578	216436	28268	BV	0.117	1.5727
15	7.339	2561	692	PV	0.049	0.0186
16	7.455	1731	866	VV	0.031	0.0126
17	7.987	1.14484E+007	1985701	PV	0.086	83.1882
18	8.639	13456	2513	VV	0.069	0.0978
19	8.721	5777	1685	VV	0.057	0.0420
20	8.813	5705	1528	VV	0.053	0.0415
21	8.851	3443	1091	VV	0.053	0.0250
22	8.920	2089	685	VB	0.051	0.0152
23	11.116	46843	9885	BV	0.074	0.3404

Data File Name : C:\HPCHEM\1\DATA\NV-F1058.D  
Operator : JAY BERGER Page Number : 3  
Instrument : INSTRUMEN Vial Number :  
Sample Name : SG-14R Injection Number :  
Run Time Bar Code: Sequence Line :  
Acquired on : 18 Aug 94 02:36 PM Instrument Method: SG-1.MTH  
Report Created on: 18 Aug 94 02:51 PM Analysis Method : SG-1.MTH

24	12.293	15952	2846	PV	0.072	0.1159
25	14.351	35627	7444	BV	0.074	0.2589

Total area = 1.3762E+007

=====



Data File Name : C:\HPCHEM\1\DATA\NV-R1058.D  
Operator : JAY BERGER  
Instrument : INSTRUMEN  
Sample Name : SG-14R  
Run Time Bar Code:  
Acquired on : 18 Aug 94 02:36 PM  
Report Created on: 18 Aug 94 02:51 PM  
Sample Info : 10:1 Dilution

Page Number : 1  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\1\DATA\NV-R1058.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : SG-14R  
 Run Time Bar Code:  
 Acquired on : 18 Aug 94 02:36 PM  
 Report Created on: 18 Aug 94 02:51 PM

Page Number : 2  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Sig. 2 in C:\HPCHEM\1\DATA\NV-R1058.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.800	1771	1236	BB	0.022	1.4573
2	7.969	113972	21782	BB	0.082	93.7660
3	11.094	4221	1054	BB	0.063	3.4730
4	14.332	1585	468	BV	0.055	1.3038

Total area = 121549

=====



**AeroVironment Inc.**Data Worksheet  
GC/PID/ELCDSample ID: SG-7R  
Control #: 8189410Project name: Geosystems  
Sample date: 08/18/94  
Project#: 300677  
File name: NV-1059  
Location: No. Hollywood  
Analysis: 8010/8020  
Analyst: Jay Berger  
Sampled by: NC  
Lab ID: Truck 1  
GC ID: GC2 PID/ELCD  
Sample type: N1  
Calib std: noSample time: 14:53  
Received time: 14:57  
Injection time: 15:00  
Probe depth: 5  
Purge volume: 40  
Sample flow: NA  
Vacuum: NA  
Syringe: 9  
Dilution factor: 10  
Calibration date: 07/22/94  
Injection volum 0.05  
18Th.  
18Th.  
Feet  
CC  
CC/min  
"H2O  
Plastic 1cc  
mL

Compound	Standard		Sample		
	RT	Avg. CF	RT	Area	ug/L
Dichlorodifluoromethane	0.59	138477		0	0.00
Vinyl chloride	0.71	271379		0	0.00
Chloroethane	0.87	195402		0	0.00
Trichlorofluoromethane	0.97	290771		0	0.00
1,1,2-Trichloro-trifluoroethane	1.23	334184		0	0.00
1,1-Dichloroethene (1,1-DCE)	1.22	443468	1.27	95272	4.30
Dichloromethane (Methylene chloride)	1.50	533175		0	0.00
trans-1,2-Dichloroethene(t-1,2-DCE)	1.67	486172		0	0.00
1,1-Dichloroethane (1,1-DCA)	1.96	499909		0	0.00
cis-1,2-Dichloroethene (c-1,2-DCE)	2.46	501846		0	0.00
Chloroform	2.81	644803		0	0.00
1,1,1-Trichloroethane (1,1,1-TCA)	2.97	559745	3.01	2368225	84.62
Carbon tetrachloride	3.16	660954		0	0.00
Benzene	3.41	13196		0	0.00
1,2-Dichloroethane (1,2-DCA)	3.48	536556		0	0.00
Trichloroethene (TCE)	4.52	581271	4.58	561277	19.31
Toluene	7.02	12282		0	0.00
1,1,2-Trichloroethane (1,1,2-TCA)	7.82	538285		0	0.00
Tetrachloroethene (PCE)	7.94	640559	7.99	9371969	292.62
1,1,1,2-Tetrachloroethane	9.49	607279		0	0.00
Ethylbenzene	9.53	10974		0	0.00
m&p-Xylene	9.73	12790		0	0.00
o-Xylene	10.30	10909		0	0.00
1,1,2,2-Tetrachloroethane	11.41	602475		0	0.00

Total peaks of PID: 2  
Total peaks of ELCD: 4  
Unidentified peaks: 0

## Notes:

- 1-"Standard RT" is the retention time for the standard.
- 2-"Standard AVE. CF" is the average calibration factor for this instrument.
- 3-"Sample area" is the area under the peak.
- 4-"Sample ug/L" is the concentration of the analyte in the sample



**AeroVironment Inc.****Analysis Results**

GC/PID/ELCD

Sample ID: SG-7R

Control #: 8189410

Sample date: 08/18/94

Project#: 300677

Location: No. Hollywood

Analysis: 8010/8020

Sample type: N1

Sampled by: NC

Sample time: 14:53

Probe depth: 5

Dilution factor: 10

Injection volume: 0.05

Feet

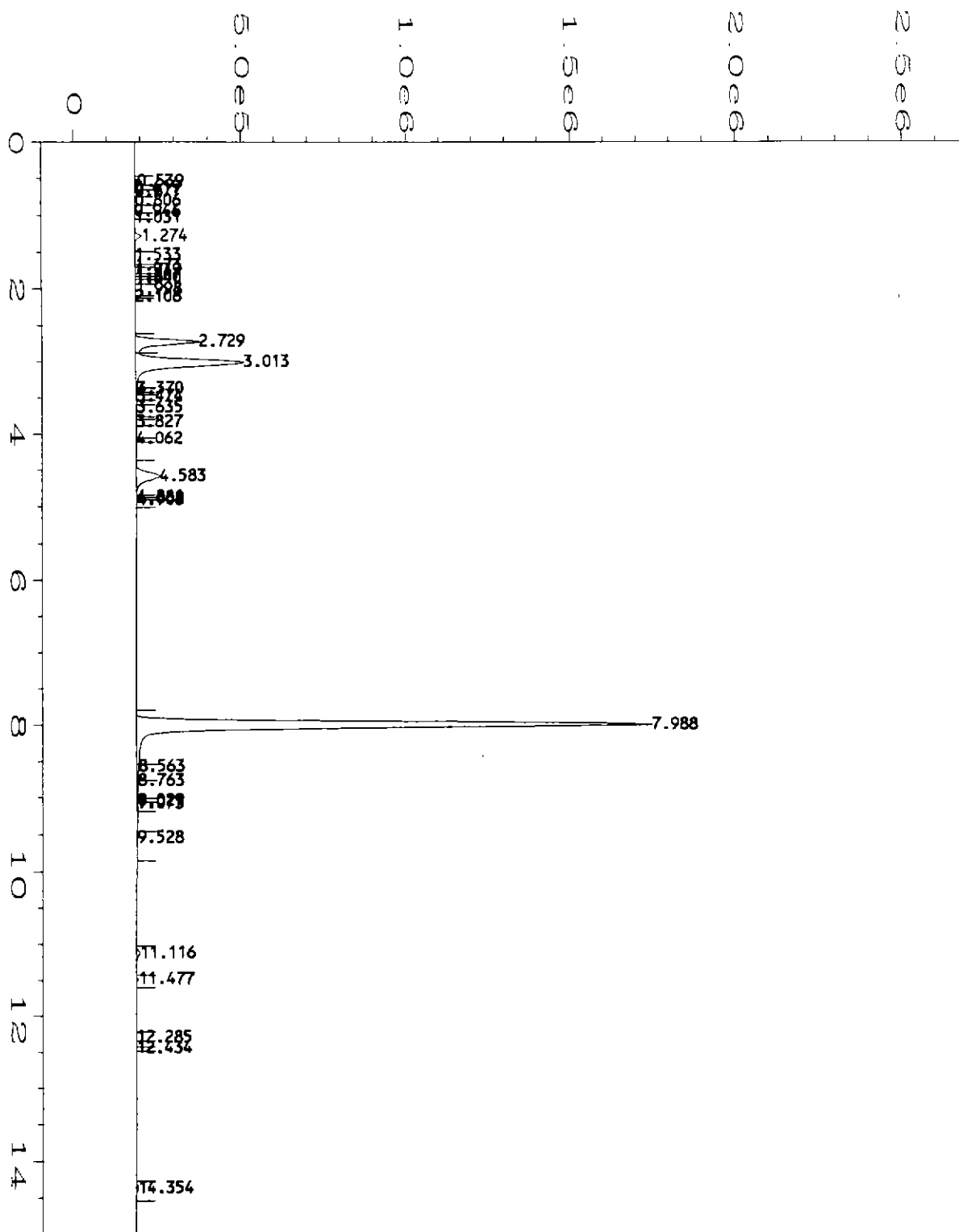
mL

Compound	MDL ug/L	Sample ug/L
Dichlorodifluoromethane	0.42	<1.0
Vinyl chloride	0.16	<1.0
Chloroethane	0.10	<1.0
Trichlorofluoromethane	0.21	<1.0
1,1,2-Trichloro-trifluoroethane	1.00	<1.0
1,1-Dichloroethene (1,1-DCE)	0.18	4.30
Dichloromethane (Methylene chloride)	0.15	<1.0
trans-1,2-Dichloroethene(t-1,2-DCE)	0.18	<1.0
1,1-Dichloroethane (1,1-DCA)	0.17	<1.0
cis-1,2-Dichloroethene (c-1,2-DCE)	0.16	<1.0
Chloroform	0.22	<1.0
1,1,1-Trichloroethane (1,1,1-TCA)	0.19	84.62
Carbon tetrachloride	0.53	<1.0
Benzene	0.87	<1.0
1,2-Dichloroethane (1,2-DCA)	0.26	<1.0
Trichloroethene (TCE)	0.16	19.31
Toluene	0.18	<1.0
1,1,2-Trichloroethane (1,1,2-TCA)	0.17	<1.0
Tetrachloroethene (PCE)	0.21	292.62
1,1,1,2-Tetrachloroethane	0.31	<1.0
Ethylbenzene	0.23	<1.0
m&p-Xylene	0.27	<1.0
o-Xylene	0.41	<1.0
1,1,2,2-Tetrachloroethane	0.22	<1.0

**Notes:**

1-"MDL ug/L" is the method limit.

2-"Sample ug/L" is the concentration of the analyte in the sample



Data File Name : C:\HPCHEM\1\DATA\NV-F1059.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : SG-7R  
 Run Time Bar Code:  
 Acquired on : 18 Aug 94 03:00 PM  
 Report Created on: 18 Aug 94 03:15 PM  
 Sample Info : 10:1 Dilution

Page Number : 1  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\1\DATA\NV-F1059.D  
Operator : JAY BERGER  
Instrument : INSTRUMEN  
Sample Name : SG-7R  
Run Time Bar Code:  
Acquired on : 18 Aug 94 03:00 PM  
Report Created on: 18 Aug 94 03:15 PM

Page Number : 2  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

Sig. 1 in C:\HPCHEM\1\DATA\NV-F1059.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.539	23953	8176	BV	0.043	0.1739
2	0.619	1873	745	PV	0.039	0.0136
3	0.677	6551	3895	VV	0.026	0.0476
4	0.806	3833	1871	PV	0.034	0.0278
5	0.946	2560	690	PV	0.062	0.0186
6	1.031	4142	1029	VV	0.067	0.0301
7	1.274	95272	20370	VV	0.066	0.6916
8	1.533	9891	1618	VV	0.082	0.0718
9	1.673	890	452	VV	0.033	0.0065
10	1.739	1992	453	VV	0.064	0.0145
11	1.807	782	419	VV	0.031	0.0057
12	1.840	848	461	VV	0.027	0.0062
13	1.998	8056	1552	VV	0.074	0.0585
14	2.106	471	341	VV	0.020	0.0034
15	2.729	973673	192530	BV	0.076	7.0680
16	3.013	2368225	323589	VV	0.107	17.1913
17	3.370	13618	3865	VV	0.045	0.0989
18	3.474	12676	3409	VV	0.050	0.0920
19	3.635	20303	2665	VV	0.094	0.1474
20	3.827	7679	1832	VV	0.057	0.0557
21	4.062	4019	1538	VV	0.035	0.0292
22	4.583	561277	70916	PV	0.104	4.0744
23	4.861	5484	3549	VV	0.026	0.0398

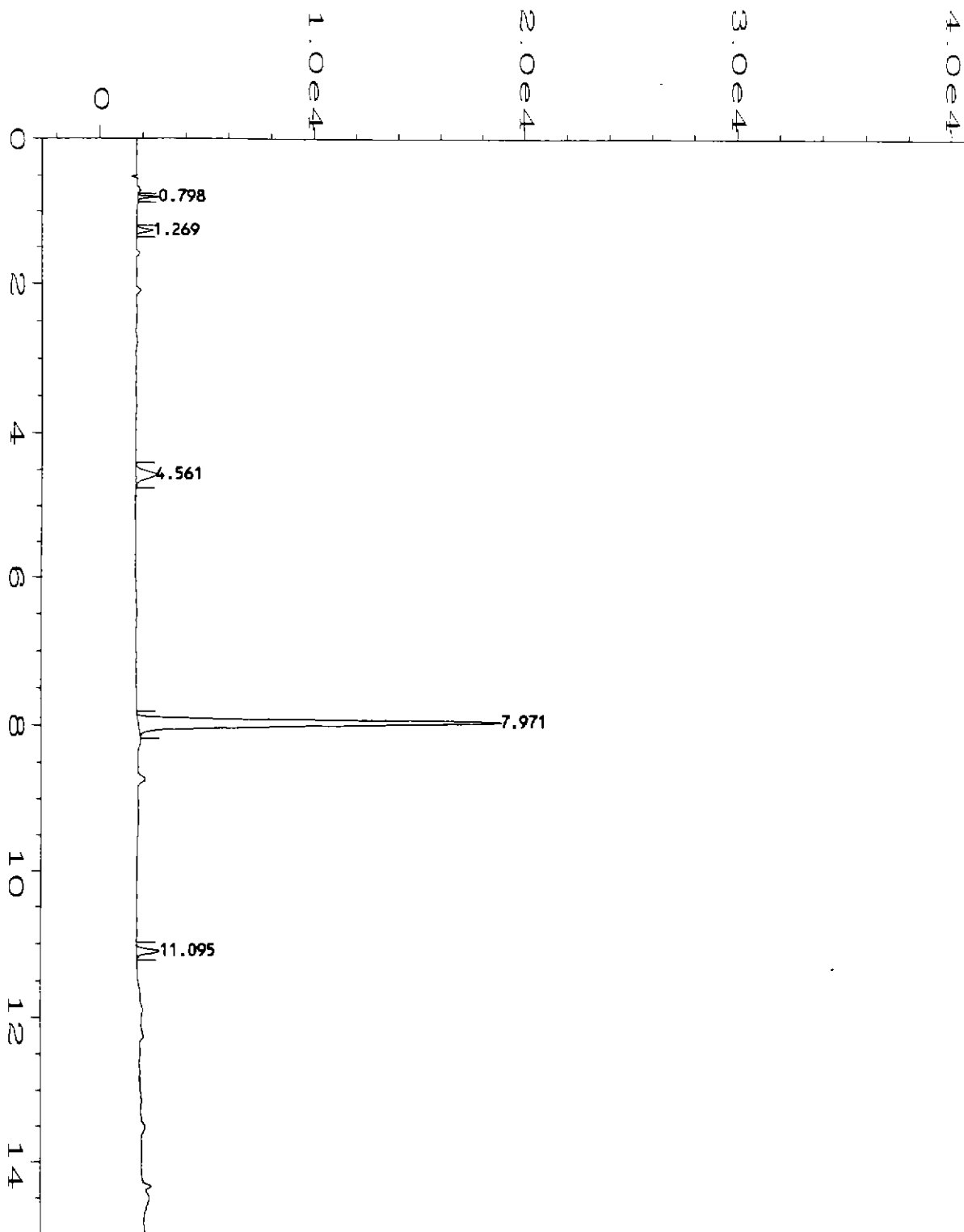
Data File Name : C:\HPCHEM\1\DATA\NV-F1059.D  
Operator : JAY BERGER  
Instrument : INSTRUMEN  
Sample Name : SG-7R  
Run Time Bar Code:  
Acquired on : 18 Aug 94 03:00 PM  
Report Created on: 18 Aug 94 03:15 PM

Page Number : 3  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

24	4.880	5789	4087	VV	0.024	0.0420
25	4.906	8881	3371	VV	0.044	0.0645
26	7.988	9371969	1563589	BV	0.092	68.0323
27	8.563	65792	5742	VV	0.191	0.4776
28	8.763	49811	4222	VV	0.197	0.3616
29	9.029	8424	2865	VV	0.049	0.0611
30	9.073	19171	2739	VV	0.089	0.1392
31	9.528	22527	1789	VV	0.153	0.1635
32	11.116	55771	10194	VV	0.082	0.4049
33	11.477	10817	6693	VV	0.036	0.0785
34	12.285	3735	853	BV	0.062	0.0271
35	12.434	806	751	VV	0.016	0.0059
36	14.354	24193	4924	BV	0.068	0.1756

Total area = 1.37758E+007

=====



Data File Name : C:\HPCHEM\1\DATA\NV-R1059.D  
Operator : JAY BERGER  
Instrument : INSTRUMEN  
Sample Name : SG-7R  
Run Time Bar Code:  
Acquired on : 18 Aug 94 03:00 PM  
Report Created on: 18 Aug 94 03:15 PM  
Sample Info : 10:1 Dilution

Page Number : 1  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

Data File Name	: C:\HPCHEM\1\DATA\NV-R1059.D	Page Number	: 2
Operator	: JAY BERGER	Vial Number	:
Instrument	: INSTRUMEN	Injection Number	:
Sample Name	: SG-7R	Sequence Line	:
Run Time Bar Code:		Instrument Method:	SG-1.MTH
Acquired on	: 18 Aug 94 03:00 PM	Analysis Method	: SG-1.MTH
Report Created on:	18 Aug 94 03:15 PM		

Sig. 2 in C:\HPCHEM\1\DATA\NV-R1059.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.798	1804	979	BB	0.029	1.6798
2	1.269	2342	755	BB	0.048	2.1809
3	4.561	6961	963	BB	0.111	6.4837
4	7.971	91922	17139	BB	0.084	85.6144
5	11.095	4339	1064	BB	0.064	4.0412

Total area = 107367

=====



# AeroVironment Inc.

Data Worksheet  
GC/PID/ELCD

Sample ID: SG-12.1R  
Control #: 8189411

Project name: Geosystems  
Sample date: 08/18/94  
Project#: 300677  
File name: NV-1060  
Location: No. Hollywood  
Analysis: 8010/8020  
Analyst: Jay Berger  
Sampled by: NC  
Lab ID: Truck 1  
GC ID: GC2 PID/ELCD  
Sample type: N1  
Calib std: no

Sample time: 15:19  
Received time: 15:22 18Th.  
Injection time: 15:26 18Th.  
Probe depth: 15 Feet  
Purge volume: 60 CC  
Sample flow: NA CC/min  
Vacuum: NA "H2O  
Syringe: 1 Plastic 1cc  
Dilution factor: 4  
Calibration date: 07/22/94  
Injection volum 0.125 mL

Compound	Standard		Sample		
	RT	Avg. CF	RT	Area	ug/L
Dichlorodifluoromethane	0.59	138477		0	0.00
Vinyl chloride	0.71	271379		0	0.00
Chloroethane	0.87	195402		0	0.00
Trichlorofluoromethane	0.97	290771		0	0.00
1,1,2-Trichloro-trifluoroethane	1.23	334184		0	0.00
1,1-Dichloroethene (1,1-DCE)	1.22	443468	1.27	115637	2.09
Dichloromethane (Methylene chloride)	1.50	533175		0	0.00
trans-1,2-Dichloroethene(t-1,2-DCE)	1.67	486172		0	0.00
1,1-Dichloroethane (1,1-DCA)	1.96	499909		0	0.00
cis-1,2-Dichloroethene (c-1,2-DCE)	2.46	501846		0	0.00
Chloroform	2.81	644803		0	0.00
1,1,1-Trichloroethane (1,1,1-TCA)	2.97	559745	3.02	3517953	50.28
Carbon tetrachloride	3.16	660954		0	0.00
Benzene	3.41	13196		0	0.00
1,2-Dichloroethane (1,2-DCA)	3.48	536556		0	0.00
Trichloroethene (TCE)	4.52	581271	4.58	684109	9.42
Toluene	7.02	12282		0	0.00
1,1,2-Trichloroethane (1,1,2-TCA)	7.82	538285		0	0.00
Tetrachloroethene (PCE)	7.94	640559	7.99	14664800	183.15
1,1,1,2-Tetrachloroethane	9.49	607279		0	0.00
Ethylbenzene	9.53	10974		0	0.00
m&p-Xylene	9.73	12790		0	0.00
o-Xylene	10.30	10909		0	0.00
1,1,2,2-Tetrachloroethane	11.41	602475		0	0.00

Total peaks of PID: 2  
Total peaks of ELCD: 4  
Unidentified peaks: 0

## Notes:

- 1-"Standard RT" is the retention time for the standard.
- 2-"Standard AVE. CF" is the average calibration factor for this instrument.
- 3-"Sample area" is the area under the peak.
- 4-"Sample ug/L" is the concentration of the analyte in the sample



**AeroVironment Inc.****Analysis Results**

GC/PID/ELCD

Sample ID: SG-12.1R

Control #: 8189411

Sample date: 08/18/94

Project#: 300677

Location: No. Hollywood

Analysis: 8010/8020

Sample type: N1

Sampled by: NC

Sample time: 15:19

Probe depth: 15 Feet

Dilution factor: 4

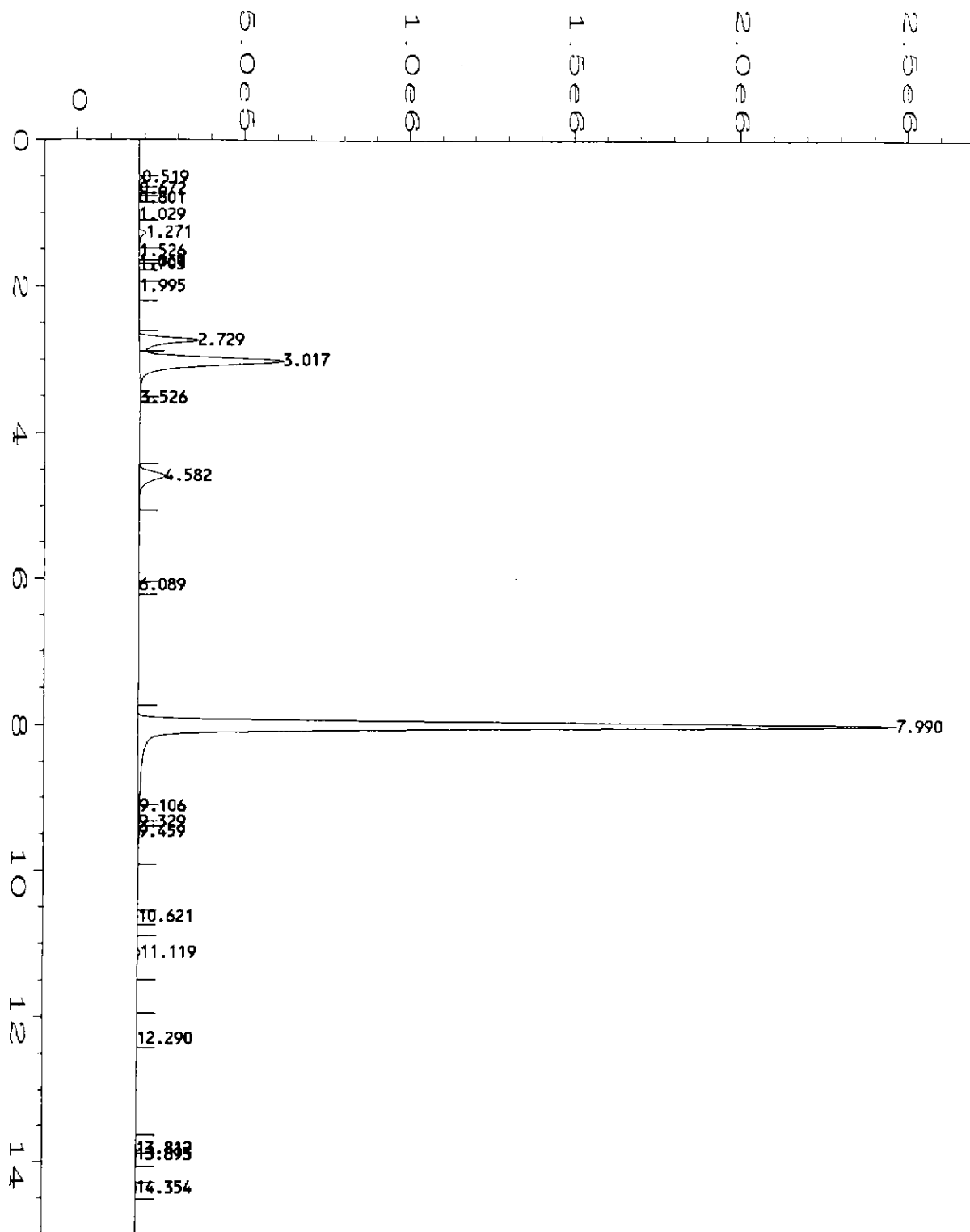
Injection volume: 0.13 mL

Compound	MDL ug/L	Sample ug/L
Dichlorodifluoromethane	0.42	<1.0
Vinyl chloride	0.16	<1.0
Chloroethane	0.10	<1.0
Trichlorofluoromethane	0.21	<1.0
1,1,2-Trichloro-trifluoroethane	1.00	<1.0
1,1-Dichloroethene (1,1-DCE)	0.18	2.09
Dichloromethane (Methylene chloride)	0.15	<1.0
trans-1,2-Dichloroethene (t-1,2-DCE)	0.18	<1.0
1,1-Dichloroethane (1,1-DCA)	0.17	<1.0
cis-1,2-Dichloroethene (c-1,2-DCE)	0.16	<1.0
Chloroform	0.22	<1.0
1,1,1-Trichloroethane (1,1,1-TCA)	0.19	50.28
Carbon tetrachloride	0.53	<1.0
Benzene	0.87	<1.0
1,2-Dichloroethane (1,2-DCA)	0.26	<1.0
Trichloroethene (TCE)	0.16	9.42
Toluene	0.18	<1.0
1,1,2-Trichloroethane (1,1,2-TCA)	0.17	<1.0
Tetrachloroethene (PCE)	0.21	183.15
1,1,1,2-Tetrachloroethane	0.31	<1.0
Ethylbenzene	0.23	<1.0
m&p-Xylene	0.27	<1.0
o-Xylene	0.41	<1.0
1,1,2,2-Tetrachloroethane	0.22	<1.0

**Notes:**

1-"MDL ug/L" is the method limit.

2-"Sample ug/L" is the concentration of the analyte in the sample



Data File Name : C:\HPCHEM\1\DATA\NV-F1060.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : SG-12.1R  
 Run Time Bar Code:  
 Acquired on : 18 Aug 94 03:26 PM  
 Report Created on: 18 Aug 94 03:42 PM  
 Sample Info : 4:1 Dilution

Page Number : 1  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\1\DATA\NV-F1060.D  
 Operator : JAY BERGER  
 Instrument : INSTRUMEN  
 Sample Name : SG-12.1R  
 Run Time Bar Code:  
 Acquired on : 18 Aug 94 03:26 PM  
 Report Created on: 18 Aug 94 03:42 PM

Page Number : 2  
 Vial Number :  
 Injection Number :  
 Sequence Line :  
 Instrument Method: SG-1.MTH  
 Analysis Method : SG-1.MTH

Sig. 1 in C:\HPCHEM\1\DATA\NV-F1060.D

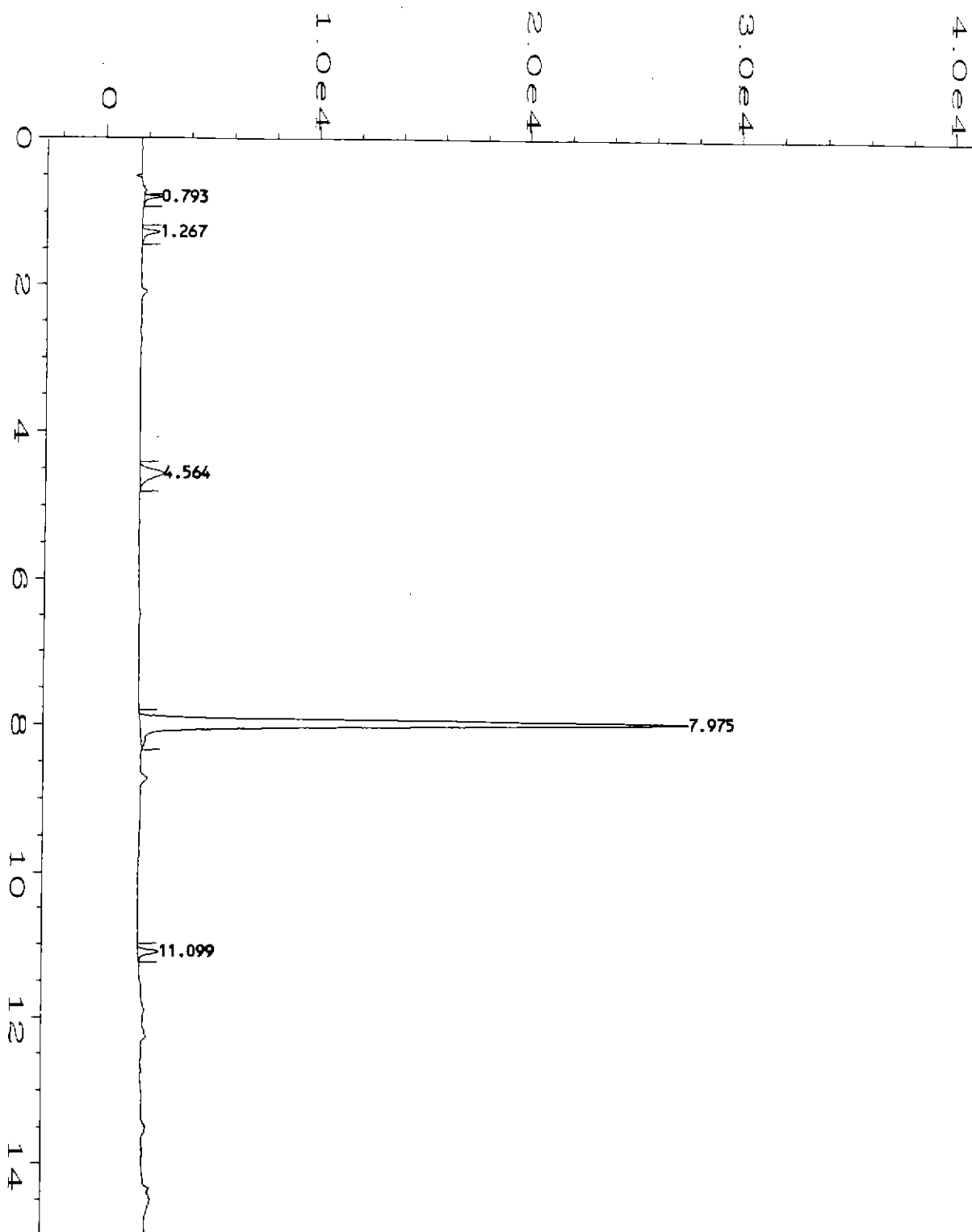
Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.519	34125	10429	BV	0.055	0.1680
2	0.672	5789	3137	PV	0.029	0.0285
3	0.801	3158	1490	BV	0.034	0.0155
4	1.029	7498	958	PV	0.106	0.0369
5	1.271	115637	21615	VV	0.076	0.5692
6	1.526	9372	1472	VV	0.082	0.0461
7	1.660	1028	425	VV	0.034	0.0051
8	1.703	1029	330	VB	0.052	0.0051
9	1.995	12678	2067	BV	0.082	0.0624
10	2.729	1062754	176429	PV	0.090	5.2312
11	3.017	3517953	432142	VV	0.122	17.3165
12	3.526	4017	1979	VV	0.034	0.0198
13	4.582	684109	76732	PV	0.135	3.3674
14	6.089	3430	1320	PB	0.047	0.0169
15	7.990	1.46648E+007	2287619	BV	0.099	72.1846
16	9.106	50566	4457	VV	0.189	0.2489
17	9.329	12424	3135	VV	0.066	0.0612
18	9.459	42923	2524	VV	0.229	0.2113
19	10.621	3966	2336	VV	0.041	0.0195
20	11.119	49554	9006	BV	0.082	0.2439
21	12.290	6061	829	BV	0.098	0.0298
22	13.812	3303	1044	BV	0.052	0.0163
23	13.893	5024	840	VV	0.077	0.0247

Data File Name : C:\HPCHEM\1\DATA\NV-F1060.D  
Operator : JAY BERGER  
Instrument : INSTRUMEN  
Sample Name : SG-12.1R  
Run Time Bar Code:  
Acquired on : 18 Aug 94 03:26 PM  
Report Created on: 18 Aug 94 03:42 PM  
Page Number : 3  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

24 14.354 14469 2777 BV 0.079 0.0712

Total area = 2.03156E+007

=====



Data File Name : C:\HPCHEM\1\DATA\NV-R1060.D  
Operator : JAY BERGER  
Instrument : INSTRUMEN  
Sample Name : SG-12.1R  
Run Time Bar Code:  
Acquired on : 18 Aug 94 03:26 PM  
Report Created on: 18 Aug 94 03:42 PM  
Sample Info : 4:1 Dilution

Page Number : 1  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

Data File Name : C:\HPCHEM\1\DATA\NV-R1060.D  
Operator : JAY BERGER  
Instrument : INSTRUMEN  
Sample Name : SG-12.1R  
Run Time Bar Code:  
Acquired on : 18 Aug 94 03:26 PM  
Report Created on: 18 Aug 94 03:42 PM

Page Number : 2  
Vial Number :  
Injection Number :  
Sequence Line :  
Instrument Method: SG-1.MTH  
Analysis Method : SG-1.MTH

Sig. 2 in C:\HPCHEM\1\DATA\NV-R1060.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	0.793	2078	832	BB	0.038	1.2322
2	1.267	3427	847	BB	0.060	2.0321
3	4.564	9468	1130	BB	0.119	5.6147
4	7.975	149523	25977	BB	0.090	88.6708
5	11.099	4132	943	BB	0.068	2.4503

Total area = 168627

=====